Appendix
12

Subsistence Evaluation
and
ANILCA Application

STANDARD FORM 299 (05/2009)
Prescribed by DOI/USDA/DOT
P.L. 96-487 and Federal
Register Notice 5-22-95

APPLICATION FOR TRANSPORTATION AND UTILITY SYSTEMS AND FACILITIES ON FEDERAL LANDS

FORM APPROVED
OMB Control Number: 0596-0082
Expiration Date: 10/31/2012

FOR AGENCY USE ONLY

NOTE: Before completing and filing the application, the applicant should completely review this package and schedule a preapplication meeting with representatives of the agency responsible for processing the application. Each agency may have specific and unique requirements to be met in preparing and processing the application. Many times, with the help of the agency representative, the application can be completed at the preapplication meeting.

Application Number

Date Filed

1. Name and address of applicant *(include zip code)*

Alaska Department of Transportation and Public Facilities; 4111 Aviation Avenue; Anchorage, Alaska 99519

2. Name, title, and address of authorized agent if different from item 1 *(include zip code)*

K. Kim Rice, P.E.
ADOT&PF, Central Region
Director of Design and Construction

3. Telephone (area code)
(907) 269-0711

Applicant
ADOT&PF

Authorized Agent
K. Kim Rice, P.E.

4. As applicant are you? *(check one)*

a. ☐ Individual
b. ☐ Corporation*
c. ☐ Partnership/Association*
d. ☒ State Government/State Agency
e. ☐ Local Government
f. ☐ Federal Agency

* *If checked, complete supplemental page*

5. Specify what application is for: *(check one)*

a. ☒ New authorization
b. ☐ Renewing existing authorization No.
c. ☐ Amend existing authorization No.
d. ☐ Assign existing authorization No.
e. ☐ Existing use for which no authorization has been received *
f. ☐ Other*

* *If checked, provide details under item 7*

6. If an individual, or partnership are you a citizen(s) of the United States? ☐ Yes ☐ No

7. Project description (describe in detail): (a) Type of system or facility, *(e.g., canal, pipeline, road);* (b) related structures and facilities; (c) physical specifications *(Length, width, grading, etc.)*; (d) term of years needed: (e) time of year of use or operation; (f) Volume or amount of product to be transported; (g) duration and timing of construction; and (h) temporary work areas needed for construction *(Attach additional sheets, if additional space is needed.)*

This application is covers the transportation system needed for the improvement of the runway safety areas (RSAs) for two runways at the Kodiak Airport. The RSAs around Runway 07/25 and Runway 18/36 at Kodiak Airport do not meet the FAA's standards. The purpose of this project is to improve the RSAs for these runways to meet the FAA's standards to the extent practicable. The anticipated public benefit for the project is that improvement of the RSAs at the Airport would make the Airport safer for all passengers and pilots, and reduce the potential for damage to planes in the event of a runoff overshoot, undershoot, or veeroff. It is anticipated that the RSA improvements would last 30 years or more.

Additional details on any additional related structures or facilities, physical specifications, volume of product transported, duration and timing of construction, and temporary work areas needed for construction are detailed in the Construction and Issues Report, included in the Construction Appendix of the Draft EIS attached to this document.

8. Attach a map covering area and show location of project proposal

9. State or Local government approval: ☐ Attached ☐ Applied for ☒ Not Required

10. Nonreturnable application fee: ☐ Attached ☒ Not required

11. Does project cross international boundary or affect international waterways? ☐ Yes ☒ No *(if "yes," indicate on map)*

12. Give statement of your technical and financial capability to construct, operate, maintain, and terminate system for which authorization is being requested.

The Alaska Department of Transportation and Public Facilities maintains and operates approximately 219 land-based airports in Alaska, including maintenance and operation of the Kodiak Airport. The RSA improvements would be completed using a combination of state and federal funding. Federal funding, using the FAA's Aviation Trust Fund, comes primarily from a nationwide airline passenger ticket tax. The cost of each Build Alternative is provided in Table 4.24-1 of the EIS.

13a. Describe other reasonable alternative routes and modes considered.

See Sections 2.2 and 4.24.3.2 in the Kodiak Airport EIS for more information on other alternatives considered

b. Why were these alternatives not selected?

See Sections 2.2 and 4.24.3.2 in the Kodiak Airport EIS for more information on other alternatives that were considered, but eliminated from detailed analysis.

c. Give explanation as t o why it is necessary to cross Federal Lands.

See Sections 4.24.1 and 4.24.2.1 in the Kodiak Airport EIS for more information on the reasons why the proposed actions require the use of federal lands.

14. List authorizations and pending applications filed for similar projects which may provide information to the authorizing agency. *(Specify number, date, code, or name)*

There are no authorizations known that are similar projects to the one proposed under this application.

15. Provide statement of need for project, including the economic feasibility and items such as: (a) cost of proposal (construction, operation, and maintenance); (b) estimated cost of next best alternative; and (c) expected public benefits.

See Section 4.24.3.1 in the Kodiak Airport EIS for the statement of need, costs of preferred alternatives and other alternatives analyzed, and benefits derived from the proposed actions.

16. Describe probable effects on the population in the area, including the social and economic aspects, and the rural lifestyles.

See Section 4.24.3.4 in the Kodiak Airport EIS for a summary of the socioeconomic effects and effects to rural lifestyles, including subsistence from proposed actions.

17. Describe likely environmental effects that the proposed project will have on: (a) air quality; (b) visual impact; (c) surface and ground water quality and quantity; (d) the control or structural change on any stream or other body of water; (e) existing noise levels; and (f) the surface of the land, including vegetation, permafrost, soil, and soil stability.

See the following sections in the EIS for a summary of environmental effects: Section 4.24.3.5 for air quality, Section 4.24.3.6 for visual effects, Section 4.24.3.7 for effects to surface and ground water quality, Section 4.24.3.8 for effects to waterbodies, Section 4.24.3.9 for effects from noise, and Sections 4.24.3.10 through 4.24.3.12 for surface effects.

18. Describe the probable effects that the proposed project will have on (a) populations of fish, plantlife, wildlife, and marine life, including threatened and endangered species; and (b) marine mammals, including hunting, capturing, collecting, or killing these animals.

See the following sections in the Kodiak Airport EIS for a summary of environmental effects: Section 4.24.3.13 for fish and invertebrates, Section 4.24.3.14 for waterbirds, Section 4.24.3.15 for marine mammals, and Section 4.24.3.16 for terrestrial wildlife.

19. State whether any hazardous material, as defined in this paragraph, will be used, produced, transported or stored on or within the right-of-way or any of the right-of-way facilities, or used in the construction, operation, maintenance or termination of the right-of-way or any of its facilities. "Hazardous material" means any substance, pollutant or contaminant that is listed as hazardous under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. 9601 et seq., and its regulations. The definition of hazardous substances under CERCLA includes any "hazardous waste" as defined in the Resource Conservation and Recovery Act of 1976 (RCRA), as amended, 42 U.S.C. 6901 et seq., and its regulations. The term hazardous materials also includes any nuclear or byproduct material as defined by the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2011 et seq. The term does not include petroleum, including crude oil or any fraction thereof that is not otherwise specifically listed or designated as a hazardous substance under CERCIA Section 101(14), 42 U.S.C. 9601(14), nor does the term include natural gas.

See Section 4.24.3.17 in the Kodiak Airport EIS for a summary of hazardous waste and materials that would be used or stored at the Kodiak Airport.

20. Name all the Department(s)/Agency(ies) where this application is being filed.

Federal Aviation Administration, US Coast Guard, US Fish and Wildlife Service, and US Army Corps of Engineers

I HEREBY CERTIFY, That I am of legal age and authorized to do business in the State and that I have personally examined the information contained in the application and believe that the information submitted is correct to the best of my knowledge.

Signature of Applicant	Date
K. Kim Reid	October 5, 2012

Title 18, U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious, or fraudulent statements or representations as to any matter within its jurisdiction.

GENERAL INFORMATION
ALASKA NATIONAL INTEREST LANDS

This application will be used when applying for a right-of-way, permit, license, lease, or certificate for the use of Federal lands which lie within conservation system units and National Recreation or Conservation Areas as defined in the Alaska National Interest lands Conservation Act. Conservation system units include the National Park System, National Wildlife Refuge System, National Wild and Scenic Rivers System, National Trails System, National Wilderness Preservation System, and National Forest Monuments.

Transportation and utility systems and facility uses for which the application may be used are:

1. Canals, ditches, flumes, laterals, pipes, pipelines, tunnels, and other systems for the transportation of water.

2. Pipelines and other systems for the transportation of liquids other than water, including oil, natural gas, synthetic liquid and gaseous fuels, and any refined product produced therefrom.

3. Pipelines, slurry and emulsion systems, and conveyor belts for transportation of solid materials.

4. Systems for the transmission and distribution of electric energy.

5. Systems for transmission or reception of radio, television, telephone, telegraph, and other electronic signals, and other means of communications.

6. Improved right-of-way for snow machines, air cushion vehicles, and all-terrain vehicles.

7. Roads, highways, railroads, tunnels, tramways, airports, landing strips, docks, and other systems of general transportation.

This application must be filed simultaneously with each Federal department or agency requiring authorization to establish and operate your proposal.

In Alaska, the following agencies will help the applicant file an application and identify the other agencies the applicant should contact and possibly file with:

Department of Agriculture
Regional Forester, Forest Service (USFS)
Federal Office Building,
P.O. Box 21628
Juneau, Alaska 99802-1628
Telephone: (907) 586-7847 *(or a local Forest Service Office)*

Department of the Interior
Bureau of Indian Affairs (BIA)
Juneau Area Office
Federal Building Annex
9109 Mendenhall Mall Road, Suite 5
Juneau, Alaska 99802
Telephone: (907) 586-7177

Department of the Interior
Bureau of Land Management
222 West 7th Avenue
P.O. Box 13
Anchorage, Alaska 99513-7599
Telephone: (907) 271-5477 (or a local BLM Office)

U.S. Fish & Wildlife Service (FWS)
Office of the Regional Director
1011 East Tudor Road
Anchorage, Alaska 99503
Telephone: (907) 786-3440

National Park Service (NPA)
Alaska Regional Office, 2225
Gambell St., Rm. 107
Anchorage, Alaska 99502-2892
Telephone: (907) 786-3440

Note - Filings with any Interior agency may be filed with any office noted above or with the Office of the Secretary of the Interior, Regional Environmental Office, P.O. Box 120, 1675 C Street, Anchorage, Alaska 9513.

Department of Transportation
Federal Aviation Administration
Alaska Region AAL-4, 222 West 7th Ave., Box 14
Anchorage, Alaska 99513-7587
Telephone: (907) 271-5285

NOTE - The Department of Transportation has established the above central filing point for agencies within that Department. Affected agencies are: Federal Aviation Administration (FAA), Coast Guard (USCG), Federal Highway Administration (FHWA), Federal Railroad Administration (FRA).

OTHER THAN ALASKA NATIONAL INTEREST LANDS

Use of this form is not limited to National Interest Conservation Lands of Alaska.

Individual department/agencies may authorize the use of this form by applicants for transportation and utility systems and facilities on other Federal lands outside those areas described above.

For proposals located outside of Alaska, applications will be filed at the local agency office or at a location specified by the responsible Federal agency.

SPECIFIC INSTRUCTIONS
(Items not listed are self-explanatory)

7 Attach preliminary site and facility construction plans. The responsible agency will provide instructions whenever specific plans are required.

8 Generally, the map must show the section(s), township(s), and range(s) within which the project is to be located. Show the proposed location of the project on the map as accurately as possible. Some agencies require detailed survey maps. The responsible agency will provide additional instructions.

9 , 10, and 12 The responsible agency will provide additional instructions.

13 Providing information on alternate routes and modes in as much detail as possible, discussing why certain routes or modes were rejected and why it is necessary to cross Federal lands will assist the agency(ies) in processing your application and reaching a final decision. Include only reasonable alternate routes and modes as related to current technology and economics.

14 The responsible agency will provide instructions.

15 Generally, a simple statement of the purpose of the proposal will be sufficient. However, major proposals located in critical or sensitive areas may require a full analysis with additional specific information. The responsible agency will provide additional instructions.

16 through 19 Providing this information is as much detail as possible will assist the Federal agency(ies) in processing the application and reaching a decision. When completing these items, you should use a sound judgment in furnishing relevant information. For example, if the project is not near a stream or other body of water, do not address this subject. The responsible agency will provide additional instructions.

Application must be signed by the applicant or applicant's authorized representative.

EFFECT OF NOT PROVIDING INFORMATION: Disclosure of the information is voluntary. If all the information is not provided, the application may be rejected.

DATA COLLECTION STATEMENT

The Federal agencies collect this information from applicants requesting right-of-way, permit, license, lease, or certification for the use of Federal lands. The Federal agencies use this information to evaluate the applicant's proposal. The public is obligated to submit this form if they wish to obtain permission to use Federal lands.

SUPPLEMENTAL		
NOTE: The responsible agency(ies) will provide instructions	CHECK APPROPRIATE BLOCK	
I - PRIVATE CORPORATIONS	ATTACHED	FILED*
a. Articles of Incorporation	☐	☐
b. Corporation Bylaws	☐	☐
c. A certification from the State showing the corporation is in good standing and is entitled to operate within the State	☐	☐
d Copy of resolution authorizing filing	☐	☐
e. The name and address of each shareholder owning 3 percent or more of the shares, together with the number and percentage of any class of voting shares of the entity which such shareholder is authorized to vote and the name and address of each affiliate of the entity together with, in the case of an affiliate controlled by the entity, the number of shares and the percentage of any class of voting stock of that affiliate owned, directly or indirectly, by that entity, and in the case of an affiliate which controls that entity, the number of shares and the percentage of any class of voting stock of that entity owned, directly or indirectly, by the affiliate.	☐	☐
f. If application is for an oil or gas pipeline, describe any related right- of-way or temporary use permit applications, and identify previous applications.	☐	☐
g. If application is for an oil and gas pipeline, identify all Federal lands by agency impacted by proposal.	☐	☐
II - PUBLIC CORPORATIONS		
a. Copy of law forming corporation	☐	☐
b. Proof of organization	☐	☐
c. Copy of Bylaws	☐	☐
d. Copy of resolution authorizing filing	☐	☐
e. If application is for an oil or gas pipeline, provide information required by item "I - f" and "I - g" above.	☐	☐
III - PARTNERSHIP OR OTHER UNINCORPORATED ENTITY		
a. Articles of association, if any	☐	☐
b. If one partner is authorized to sign, resolution authorizing action is	☐	☐
c. Name and address of each participant, partner, association, or other	☐	☐
d. If application is for an oil or gas pipeline, provide information required by item "i - f" and "i - g" above.	☐	☐

*If the required information is already filed with the agency processing this application and is current, check block entitled "Filed." Provide the file identification information *(e.g., number, date, code, name)*. If not on file or current, attach the requested information.

NOTICES

Note: This applies to the Department of Agriculture/Forest Service (FS)

This information is needed by the Forest Service to evaluate the requests to use National Forest System lands and manage those lands to protect natural resources, administer the use, and ensure public health and safety. This information is required to obtain or retain a benefit. The authority for that requirement is provided by the Organic Act of 1897 and the Federal Land Policy and Management Act of 1976, which authorize the secretary of Agriculture to promulgate rules and regulations for authorizing and managing National Forest System lands. These statutes, along with the Term Permit Act, National Forest Ski Area Permit Act, Granger-Thye Act, Mineral Leasing Act, Alaska Term Permit Act, Act of September 3, 1954, Wilderness Act, National Forest Roads and Trails Act, Act of November 16, 1973, Archeological Resources Protection Act, and Alaska National Interest Lands Conservation Act, authorize the Secretary of Agriculture to issue authorizations or the use and occupancy of National Forest System lands. The Secretary of Agriculture's regulations at 36 CFR Part 251, Subpart B, establish procedures for issuing those authorizations.

BURDEN AND NONDISCRIMINATION STATEMENTS

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0596-0082. The time required to complete this information collection is estimated to average 8 hours hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720- 2600 (voice and TDD).

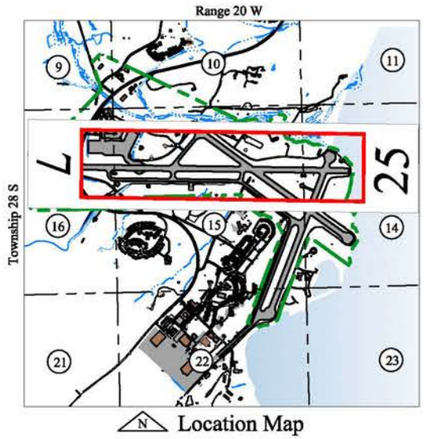
To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, 1400 Independence Avenue, SW, Washington, DC 20250-9410 or call toll free (866) 632-9992 (voice). TDD users can contact USDA through local relay or the Federal relay at (800) 877-8339 (TDD) or (866) 377-8642 (relay voice). USDA is an equal opportunity provider and employer.

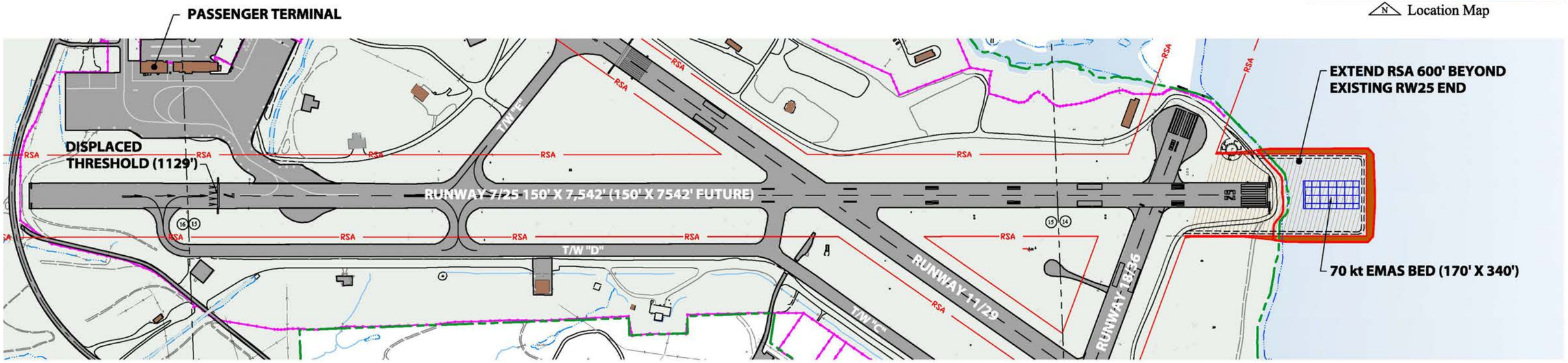
The Privacy Act of 1974 (5 U.S.C. 552a) and the Freedom of Information Act (5 U.S.C. 552) govern the confidentiality to be provided for information received by the Forest Service.

Runway Safety Area Data

Runway End	RSA Undershoot Existing/Future	RSA Overrun Existing/Future
Runway 7	1,129'/1,129'	0'/600' (1)
Runway 25	0'/600' (1)	0'/0'

(1) Dimension includes EMAS bed length.





Legend

- Airport Property Line
- Airport Security Fence
- RSA — Runway Safety Area
- RSA Improvement/Fill Footprint Boundary

N

0 150' 300' 600' 900'
GRAPHIC SCALE IN FEET

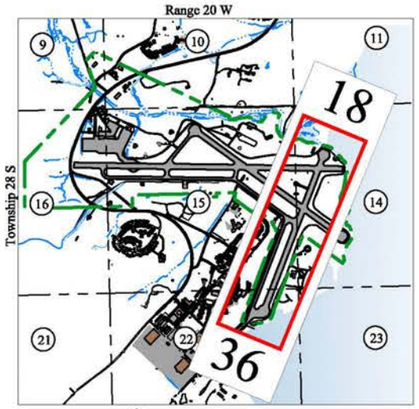
SOURCE: US COAST GUARD, ALASKA DOT, R&M CONSULTANTS, INC.

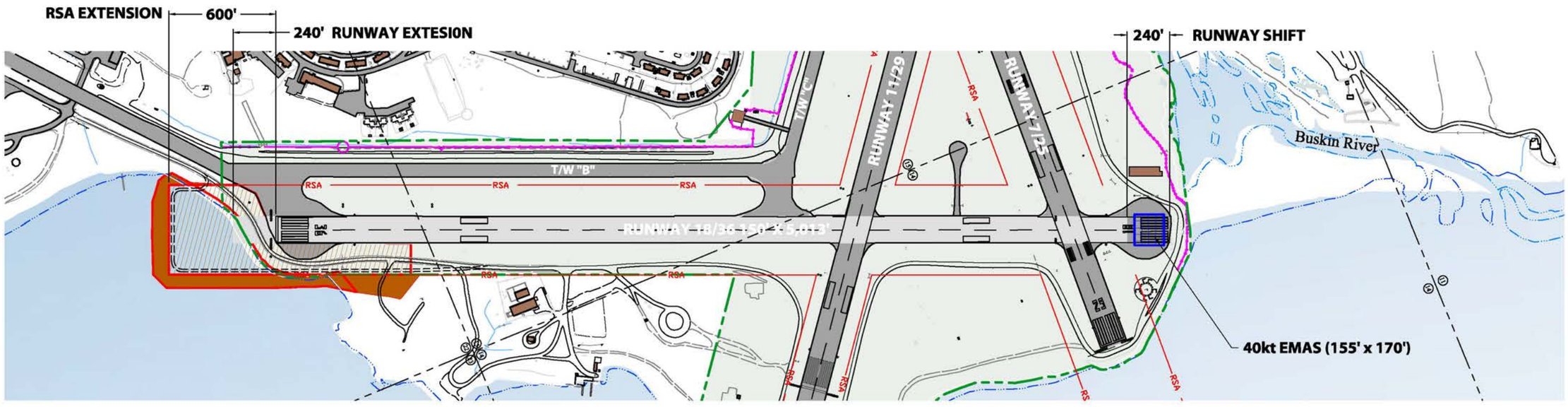
■ Figure 2-2 **RW 7/25 Alternative 2**
Extend Runway 25 RSA landmass by 600 feet and install 70kt EMAS on newly constructed landmass

Runway Safety Area Data

Runway End	RSA Undershoot Existing/Future	RSA Overrun Existing/Future
Runway 18	0'/240' (1)	0'/600'
Runway 36	0'/600'	0'/240' (1)

(1) Dimension includes EMAS.





Legend

- Airport Property Line
- Airport Security Fence
- RSA — Runway Safety Area
- RSA Improvement/Fill Footprint Boundary

0 150' 300' 600' 900'
GRAPHIC SCALE IN FEET

SOURCE: US COAST GUARD, ALASKA DOT, R&M CONSULTANTS, INC.

Figure 2-10 **RW18/36 Alternative 7**
Extend Runway RSA to south by 600 feet, shift runway south 240', and install 40kt EMAS on existing pavement

KODIAK AIRPORT IMPROVEMENTS EIS
SUBSISTENCE EVALUATION

Prepared for

Federal Aviation Administration
Alaska Department of Transportation and Public Facilities

Prepared by

SWCA Environmental Consultants
1220 SW Morrison, Suite 700
Portland, Oregon 97205

July 2013

CONTENTS

Figures

Tables

Introduction

The Federal Aviation Administration (FAA) Airport Improvement Program and Alaska Department of Transportation and Public Facilities (ADOT&PF) identified a need to improve the runway safety areas (RSAs) at the Kodiak Airport to help mitigate potential problems associated with aircraft landing short, running long, or otherwise deviating from the designated runway surface, as well as meeting FAA's national standards for RSAs. The FAA and ADOT&PF are examining options for improving the Kodiak Airport RSAs through the preparation of an Environmental Impact Statement (EIS).

Chapters 3 and 4 (Affected Environment and Environmental Consequences) of the Kodiak Airport Improvements EIS provide a detailed description of both the affected environment of the Project Area and the potential effects of the various alternatives on subsistence. The subsistence study area for the Kodiak Airport EIS includes land within the Airport boundary and the federal salmon subsistence harvest area surrounding the Airport runways within Chiniak Bay. Much of the submerged lands surrounding Kodiak Airport in Chiniak Bay are jointly managed by the U.S. Coast Guard (USCG) Kodiak Station and the U.S. Fish and Wildlife Service (USFWS) Alaska Maritime Refuge, Gulf of Alaska Unit. This appendix uses the detailed information presented in the EIS to evaluate the potential impacts to subsistence pursuant to Section 810(a) of the Alaska National Interest Land Conservation Act (ANILCA) (Public Law 96-487).

810 Evaluation Process

Section 810(a) of ANILCA states:

> In determining whether to withdraw, reserve, lease, or otherwise permit the use, occupancy, or disposition of public lands under any provision of law authorizing such actions, the head of the Federal agency having primary jurisdiction over such lands or his designee shall evaluate the effect of such use, occupancy, or disposition on subsistence uses and needs, the availability of other lands for the purposes sought to be achieved, and other alternatives which would reduce or eliminate the use, occupancy, or disposition of public lands needed for subsistence purposes. No such withdrawal, reservation, lease, permit, or other use, occupancy or disposition of such lands which would significantly restrict subsistence uses shall be effected until the head of such Federal agency—
>
> 1. gives notice to the appropriate State agency and the appropriate local committees and regional councils established pursuant to section 805;
>
> 2. gives notice of, and holds, a hearing in the vicinity of the area involved; and
>
> 3. determines that
>
>   A. such a significant restriction of subsistence uses is necessary, consistent with sound management principles for the utilization of the public lands,
>
>   B. the proposed activity will involve the minimal amount of public lands necessary to accomplish the purposes of such use, occupancy, or other disposition, and
>
>   C. reasonable steps will be taken to minimize adverse impacts upon subsistence uses and resources resulting from such actions.

The Alaska Land Use Council (a council of federal, state, and native corporations established under ANILCA to provide guidance on implementing the provisions of ANILCA) clarified the definition of a "significant restriction of subsistence use" as follows:

> A proposed action shall be considered to significantly restrict subsistence uses, if after any modification warranted by consideration of alternatives, conditions, or stipulations, it can be expected to result in a substantial reduction in the opportunity to continue subsistence uses of renewable resources. (Alaska Land Use Council, 1984)

The Bureau of Land Management also established a definition as to what constitutes a significant restriction under ANILCA 810. This definition was upheld by the U.S. District Court in Alaska in the court case *Kunaknana v. Clark*, No. A83-337 (D. Alaska 1983) (affirmed by *Kunaknana v. Clark*, 742 F.2d 1145 (9th Cir. 1984)) (see Subsistence Evaluation Factors below).

This evaluation focuses on subsistence resources most likely to be affected by habitat modification associated with proposed activities for the Kodiak Airport that are being evaluated in the EIS.

Definitions and Legal Context

While there are many popular cultural and sociological definitions and interpretations of subsistence, in 1980, Congress provided a legal description of subsistence in Title VIII of ANILCA. Section 803 of ANILCA defines subsistence use as:

> the customary and traditional uses by rural Alaska residents of wild renewable resources for direct, personal, or family consumption as food, shelter, fuel, clothing, tools, or transportation; for the making and selling of handicraft articles out of non-edible byproducts of fish and wildlife resources taken for personal or family consumption; for barter, or sharing for personal or family consumption; and for customary trade.

ANILCA provides for "the continuation of the opportunity for subsistence uses by rural residents of Alaska, including both Natives and non-Natives, on the public lands." ANILCA defines public lands as:

> land situated in Alaska which, after the date of enactment of this Act, are Federal lands except—
>
> (A) land selections of the State of Alaska which have been tentatively approved or validly selected under the Alaska Statehood Act and lands which have been confirmed to validly selected by, or granted to the Territory of Alaska or the State under any other provision of Federal law;
>
> (B) land selections of a Native Corporation made under the Alaska Native Claims Settlement Act which have not been conveyed to a Native Corporation, unless any such selection is determined to be invalid or is relinquished; and
>
> (C) lands referred to in §19(b) of the Alaska Native Claims Settlement Act.

Additional Applicable Requirements

Executive Order 13175: *Consultation and Coordination with Indian Tribal Governments* (November 6, 2000). This executive order establishes principles and standards for government-to-government consultation with tribal governments on "policies that have tribal implications." Consultation with tribal governments on subsistence, along with other issues, is an integral part of the public involvement process for an EIS. FAA Order 1210.20, American Indian and Alaska Native Tribal Consultation Policy and Procedures, contains the FAA's policy on consultation with tribal governments. FAA's policy is to comply with all provisions of Executive Order 13175.

Executive Order 12898: *Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations* (February 11, 1994). In addition to ANILCA, Executive Order 12898, also calls for an analysis of the effects of federal actions on minority populations with regard to subsistence. Specifically, environmental justice is defined in the executive order as:

> The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including racial, ethnic, or socioeconomic group should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies.

Section 4-4 of Executive Order 12898, regarding the subsistence consumption of fish and wildlife, requires federal agencies to collect, maintain, and analyze information on the consumption patterns of populations who principally rely on fish or wildlife for subsistence, and to communicate to the public any risks associated with the consumption patterns. For the EIS, analyses of the impacts of all alternatives on subsistence were prepared to comply with Executive Order 12898.

Subsistence Evaluation Factors

ANILCA requires that a subsistence evaluation under Section 810 (a) include findings on three specific issues:

- The effect of use, occupancy, or disposition on subsistence resources and uses;
- The availability of other lands for the purpose sought to be achieved; and
- Other alternatives that would reduce or eliminate the use, occupancy, or disposition of public lands needed for subsistence purposes (16 U.S.C. § 3120).

The evaluation and findings required by ANILCA Section 810(a) are set out for each of the alternatives considered in the EIS.

If there is a finding that the proposed action may significantly restrict subsistence uses, additional requirements are imposed including provisions for notices to the State of Alaska and appropriate regional and local subsistence committees, a hearing in the vicinity of the area involved, and the making of the following determinations, as required by Section 810(a)(3):

- Such a significant restriction of subsistence uses is necessary and consistent with sound management principles for the utilization of the public lands;
- The proposed activity would involve the minimal amount of public lands necessary to accomplish the purposes of use, occupancy, or other disposition; and
- Reasonable steps would be taken to minimize adverse effects upon subsistence uses and resources resulting from such actions.

Effects on subsistence uses are typically discussed by land management agencies in terms of the following types of changes to the subsistence resources (see, e.g., the district court's Decision of Record in *Kunaknana v. Clark*, No. A83-337 (D. Alaska 1983), affirmed by *Kunaknana v. Clark,* 742 F.2d 1145 (9th Cir. 1984)):

- Changes in abundance and availability of subsistence resources: Reductions or increases in the amount of habitat for plants and animals and, by extension, in the numbers of plants and animals that are used for subsistence.
- Changes in access to subsistence resources: Variations in the ability to get to subsistence resource harvesting locations. Access consists of two categories: physical access (a person cannot reach the locations by walking, driving, boating, or flying) and legal access (it is illegal to go to the location [regardless of the ease or method of physical access] or to use resources at that location).
- Changes in competition for subsistence resources: Reductions or increases in the use of subsistence resources harvesting locations by both subsistence and non-subsistence users.

For the purpose of this EIS, and consistent with the district court's decision in *Kunaknana*, the FAA considers a restriction on subsistence use to be significant if there are: (1) large reductions in abundance or major redistribution of these resources; (2) substantial interference with harvestable access to active subsistence use sites; or (3) major increases in non-rural use. This description of significant restrictions is used as the baseline for establishing impact evaluation criteria and significance for the EIS. The district court in *Kunaknana* did not provide a definition or interpretation of what constitutes a "large reduction," "major redistribution," "substantial interference," or "major increase." For the purpose of the EIS and this evaluation, and taking into consideration the nature of subsistence use and local environmental conditions in the Kodiak area, the FAA has defined these terms as follows:

- Large reductions in abundance: Noticeable and recognizable declines in subsistence resource populations in a given area and reduced subsistence resource harvests as a result of project actions. This includes reduced per capita harvest of subsistence resources.
- Major reductions in availability (i.e., redistribution of resources): Noticeable and recognizable declines in subsistence resource distributions across the landscape and reduced subsistence resource harvests as a result of project actions. This includes reduced per capita harvest of subsistence resources.

- Substantial interference with harvestable access: Local subsistence users' access to active subsistence harvesting locations becomes so inconvenient that a substantial portion of the users shift to alternate locations. Major increases in non-rural use: Increases in non-rural use that would cause local subsistence users to either forgo or find alternate subsistence harvesting locations

The reduction in availability is based on the analysis of biological resources identified as being subsistence resources (as further described in Section 4.5, Fish and Invertebrates; Section 4.6, Waterbirds; Section 4.7, Marine Mammals; and Section 4.8, Terrestrial Wildlife and Vegetation of the EIS and a subsequent determination as to whether the impacts on those resources would cause an effect on local rural residents' ability to gather those resources.

For context, analysis also includes acres of marine habitat impacted by each alternative compared with the area of the Buskin River subsistence fishery area (approximately 316 acres of marine habitat encompassed where most subsistence harvest of salmonids occur). This area is hereafter referred to as the "Subsistence Use Area" (Figure 1). The information on effects to the Subsistence Use Area is used to assess relative impact to changes in access and competition resulting from the placement of fill in the Buskin River subsistence fishery area.

Chapter 3 (Affected Environment) of the EIS provides information on resources important for subsistence use within the Project Area while Chapter 4 (Environmental Consequences) provides data on the potential impacts to subsistence resources, uses, access, and competition under each alternative. A subsistence evaluation and findings under ANILCA Section 810 must also include a cumulative impacts analysis. This appendix evaluates the cumulative case, as discussed in the Cumulative Impacts section of Chapter 4 (Environmental Consequences). This approach helps the reader to separate the subsistence restrictions caused by activities proposed under the build alternatives from those caused by unrelated past, present, and future activities that could occur, or have already occurred, in the study area.

Subsistence Management

The federal government is the legal owner of the submerged land, tidelands, and dry land comprising and surrounding Kodiak Airport. The lands were within the public domain until the 1930s when they were removed from the public domain by executive order for the establishment of a naval base. The Secretary of Interior transferred the lands to the USCG in 1975 with the issuance of Public Land Order 5550, making the USCG the federal agency responsible for the lawful use and occupancy of the lands. The State of Alaska operates Kodiak Airport under a lease from the federal government, signed by the U.S. Navy and now administered by the USCG.

ANILCA Section 303 (1)(v) set aside "all named and unnamed islands, islets, rocks, reefs, spires, and whatever submerged lands, if any, were retained in federal ownership at the time of statehood surrounding Kodiak and Afognak Islands" as part of the Alaska Maritime National Wildlife Refuge. Therefore, the submerged lands and waters around the Airport are part of the Alaska Maritime National Wildlife Refuge. Given that the reservation of land by the U.S. Navy occurred before statehood and its subsequent transfer to the USCG occurred before designation of the Alaska Maritime National Wildlife Refuge, the USCG administers the use and occupancy of the land, tidelands, and submerged lands surrounding the Airport, and the USFWS exercises refuge management authority over the submerged lands and waters in Chiniak Bay. The USCG's primary jurisdiction and the Refuge's secondary jurisdiction over the submerged lands mean that the USCG has primary authority over use and management of the submerged lands and

waters. The Refuge has authority to protect fish and wildlife populations on the submerged lands.

Different legal frameworks regulate subsistence on lands of different status. The State of Alaska administers the harvest of fish and wildlife, including for subsistence purposes, except as specifically superseded by federal law. To implement a federal subsistence priority under the terms of Title VIII of ANILCA, the Federal Subsistence Board regulates subsistence hunting on federally administered lands and fishing on federal lands and waters where there is a federal reserved water right. State, private, and Native-selected or Native-owned lands are generally not within the jurisdiction of the federal subsistence management program. The Alaska Department of Fish and Game actively manages both the state and federal subsistence fishery around the airport.

The land in and around Kodiak Airport is predominantly federal land. The subsistence Project Area includes land within the Airport property and the federal salmon subsistence harvest area surrounding the Airport runways within Chiniak Bay (See Figure 1). The Project Area includes waters of the USCG Base, which are under the Department of Defense and the Alaska Maritime National Wildlife Refuge Kodiak Management Unit; these are under the jurisdiction of the USFWS.

Subsistence activities occurring in offshore federal waters (greater than 3 miles from the coast) are not subject to ANILCA. However, offshore waters and all lands in Alaska are subject to the Marine Mammal Protection Act (16 U.S.C. 1361-1407), the Endangered Species Act (16 U.S.C. 1531-1544), the Migratory Bird Treaty Act (16 U.S.C. 703-712), and the Migratory Waterfowl Hunting and Conservation Stamp Act (16 U.S.C. 718-718h). The Marine Mammal Protection Act and the Endangered Species Act only allow the harvest of marine mammals by coastal Alaska Natives and endangered species by Alaska Natives for non-wasteful subsistence purposes.

Project Area Description and History

The Kodiak Airport EIS Project Area is located just south of the City of Kodiak, a community of around 8,000 residents located in southcentral Alaska. The City of Kodiak is located on Kodiak Island in the Gulf of Alaska, approximately 252 miles south of Anchorage, the closest major community. It has no road links to any other developed areas and is completely dependent upon plane and boat transportation for access throughout the year.

Kodiak Island has been inhabited for the past 8,000 years by the Koniag, one of three regional groups of the Alutiiq people. Prior to historic contact, there were roughly 15,000 people inhabiting Kodiak Island. The first non-Native contacts on Kodiak Island were in 1763, by the Russian Stephen Glotov, and in 1792 by Alexander Baranov, a Russian fur trapper. Economics, primarily from the sale of sea otter pelts, were the primary incentive for Russian exploration, and a settlement eventually was established in Saint Paul Harbor at the site of present-day Kodiak. Kodiak soon became the first capital of Russian Alaska. At that time, there were over 9,000 Koniags in the area and the Island was called “Kikhtak” (ADCCED 2013). It later was known as “Kadiak,” the Alutiiq word for island. Russian colonization had a devastating effect on the local Native population. The spread of western disease, development of a cash economy, introduction of a foreign language, religion, and social customs caused an extensive loss of population and cultural change. By the mid-1800s, the Koniag population had plummeted to less than 3,000 individuals (Higgs and Steffian 1996).

By the time Alaska became a U.S. Territory in 1867, sea otter fur harvesting was in decline as a major commercial enterprise, and eventually led to the near extinction of the species. In 1882 a fish cannery opened at the Karluk River spit. This sparked the development of commercial fishing in the area, which continues to this day. By the turn of the century, farming and ranching were also added as economic ventures in Kodiak. In 1940, the town of Kodiak was incorporated (ADCCED 2013). Historically, the pink salmon fishery had been the most common subsistence fishery on the Buskin River prior to World War II, but as the sockeye and Coho salmon populations have improved in recent years, more residents have moved toward using those fisheries.

As World War II broke out around the world, the U.S. military built installations to protect the defenseless Alaska Territory. In 1939, the U.S. Navy built a naval base at the current location of the USCG Base and Kodiak Airport. In 1941, Fort Greely was established adjacent to the naval base, and in 1943, Fort Abercrombie was constructed north of the City of Kodiak. It later became the first secret radar installation in Alaska. At the conclusion of the war, the naval bases were decommissioned, and in 1972 the USCG took over complete ownership of the Navy's Kodiak complex (Higgs and Steffian 1996). The changes made to the area, particularly at the mouth of the Buskin River, had a profound impact on the salmon fisheries. In particular, the sockeye and coho salmon fisheries declined due to placement of fill and disposal of contaminants into area waters.

After the war, development continued in Kodiak, and the 1960s brought growth in commercial fisheries and fish processing. The 1964 earthquake and subsequent tidal wave virtually leveled downtown Kodiak. The fishing fleet, processing plant, canneries, and 158 homes were destroyed, causing $30 million in damage. The infrastructure was rebuilt, and by 1968, Kodiak had become the largest fishing port in the U.S., in terms of dollar value. The Magnuson Fishery and Conservation Management Act in 1976 (16 U.S.C. 1801-1882) extended the U.S. jurisdiction of marine resources to 200 miles offshore, which reduced competition from the foreign fleet, and provided opportunity for Kodiak to develop a groundfish processing industry (ADCCED 2013).

The Kodiak economy is based on fishing, seafood processing, retail services, and government. Adaptability and diversification in a variety of fisheries has enabled the Kodiak economy to develop and stabilize. On average, 665 area residents hold commercial fishing permits, and numerous fish processing companies operate here year-round. The hospital and city government also rank among the top employers. The USCG Base, which is the largest Coast Guard base in the United States, lies just south of the city. The Kodiak Launch Complex (KLC), a $38 million low-Earth orbit launch facility on 27 acres, is the only commercial launch range in the U.S. that is not co-located with a federal facility. The KLC launched its first payload in November 1998 (ADCCED 2013).

The local culture is dominated by commercial and subsistence fishing activities. The USCG Base comprises a significant portion of the community, and there is a large seasonal population associated with the USCG and commercial fishing. The City of Kodiak is primarily a non-Native community, and the majority of the Native population in the Kodiak area is Alutiiq. Filipinos and Latinos from Central America are large subcultures in the Kodiak area due to their work in the canneries (ADCCED 2013).

Resources harvested within the project area include salmon, halibut, Dolly Varden, steelhead/rainbow trout, crab, octopus, shrimp, clams, sea cucumbers, waterfowl, harbor seals, seaweed, kelp, salmonberries, and wood. Households within and outside of the local area trade and share resources. Within the immediate Project Area, the most likely resources to be present are marine, intertidal, and riverine species, including anadromous fish (Table 1).

TABLE 1. KODIAK AREA SUBSISTENCE RESOURCES HARVESTED BY COMMUNITIES DURING REPRESENTATIVE HARVEST YEARS

Resource Category	Common Name	Scientific Name
Fish	Chinook salmon	*Oncorhynchus tshawytscha*
	Chum salmon	*Oncorhynchus keta*
	Coho salmon	*Oncorhynchus kisutch*
	Pink salmon	*Oncorhynchus gorbuscha*
	Sockeye salmon	*Oncorhynchus nerka*
	Herring	*Clupea* spp.
	Smelt	Osmeridae family
	Sand Lance	*Ammodytes hexapterus*
	Capelin (grunion)	*Mallotus villosus*
	Eulachon (hooligan, candlefish)	*Thaleichthys pacificus*
	Pacific cod (gray)	*Gadus macrocephalus*
	Walleye pollack (whiting)	*Theragra chalcogramma*
	Starry flounder	*Platichthys stellatus*
	Flounder	Various spp.
	Kelp greenling	*Hexagrammos decagrammus*
	Greenling	Various spp.
	Lingcod	*Ophiodon elongatus*
	Halibut	*Hippoglossus stenolepis*
	Black rockfish	*Sebastes melanops*
	Red snapper (yelloweye rockfish)	*Sebastes ruberrimus*
	Sablefish (black cod)	*Anoplopoma fimbria*
	Sculpin	Various spp.
	Shark	Various spp.
	Sole	Various spp.
	Dolly Varden	*Salvelinus malma*
	Rainbow trout	*Oncorhynchus mykiss*
	Steelhead	*Oncorhynchus mykiss*
Terrestrial Mammals	Brown bear	*Ursus arctos*
	Sitka black-tailed deer	*Odocoileus hemionus sitkensis*
	Goat	*Oreamnos americanus*
	Beaver	*Castor canadensis*
	Red fox	*Vulpes*
	Snowshoe hare	*Lepus americanus*

Resource Category	Common Name	Scientific Name
	Land (river) otter	*Lutra canadensis*
	Tree squirrel	*Tamiasciurus hudsonicus*
Marine Mammals	Harbor seal	*Phoca vitulina*
	Sea otter	*Enhydra lutris*
	Steller Sea Lion	*Eumetopias jubatus*
Birds and Eggs	Bufflehead	*Bucephala albeola*
	Goldeneye	*Bucephala clangula*
	Harlequin	*Histrionicus*
	Mallard	*Anas platyrhynchos*
	Merganser	Various spp.
	King eider	*Somateria spectabilis*
	Common eider	*Somateria mollissima*
	Long-tailed duck (Oldsquaw)	*Clangula hyemalis*
	Scaup	*Aythya marila*
	Scoter species	*Melanitta* spp.
	Teal	*Anas* spp.
	Wigeon	*Anas* spp.
	Canada geese	*Branta canadensis*
	Ptarmigan	*Lagopus*
	Bird eggs	Various spp.
Marine Invertebrates	Black (small) chiton	*Katharina tunicata*
	Gumboot chiton	*Cryptochiton stelleri*
	Butter clams	*Saxidomus giganteus*
	Horse clams (gaper)	*Tresus* spp.
	Pacific littleneck clams (steamers)	*Protothaca staminea*
	Pinkneck clams	*Spisula polynyma*
	Razor clams	*Siliqua patula*
	Cockles	Various spp.
	Dungeness crab	*Cancer magister*
	King crab sub-species	*Paralithodes camtschaticus*
	Tanner crab, Bairdi	*Chionoecetes bairdi*
	Tanner crab, Opillio	*Chionoecetes opilio*
	Tanner crab sub-species	*Chionoecetes* spp.
	Jingles	*Pododesomus* spp.
	Limpets	Various spp.
	Mussels	Various spp.

Resource Category	Common Name	Scientific Name
	Octopus	Octopus dolfeini
	Scallops	Patinopecten caurinus
	Sea cucumber	Parastichopus californicus
	Sea urchin	Various spp.
	Shrimp	Pandalus spp.
	Squid	Various spp.
Vegetation	Plants/greens/mushrooms	Various spp.
	Berries	Various spp.
	Seaweed/kelp	Various spp.
	Wood	Various spp.

Source: Brown, Lois A., Gretchen B. Jennings, Cheryl L. Scott, and Charles J. Utermohle. *Alaska Department of Fish and Game Community Subsistence Information System.* Alaska Department of Fish and Game, Division of Subsistence, Juneau, AK: 2001.

Importance of Subsistence

For Alaskans, subsistence is more than the harvesting, processing, sharing, and trading of natural resources. Subsistence embodies the cultural, social, and spiritual values at the core of Alaska Native and rural Alaskan culture. Subsistence in Alaska comprises a diverse set of localized systems of food production and distribution, representing relatively unique combinations of ecology, community, culture, and economics (Wolfe 2004).

Nearly all rural Alaska communities depend on subsistence resources to meet at least part of their nutritional needs. The reasons for participating in subsistence are many and varied. Some individuals participate in subsistence activities to supplement personal income and provide needed food. Others pursue subsistence activities to continue cultural customs and traditions. Many others participate in subsistence activities for reasons unconnected with income or tradition. For many individuals, subsistence reflects deeply held attitudes, values, and beliefs about where their food comes from, as well as the ability to supply their families directly through their own work.

Subsistence resources are highly valued and central to the customs and traditions of many cultural groups in Alaska. These customs and traditions include sharing and distribution networks as well as cooperative hunting, fishing, gathering, and ceremonial activities. Sharing of subsistence foods is common in rural Alaska. Subsistence fishing, hunting, and gathering are important sources of nutrition in almost all rural communities in Alaska. In general, statewide Alaskan subsistence harvests by rural residents consist primarily of fish (55 percent), followed by land mammals (22 percent), marine mammals (13 percent), plants (4 percent), birds (3 percent), and shellfish (3 percent) (Wolfe 2012).

Generally, subsistence harvest levels vary widely from one community to another and from year to year. Rural communities have high subsistence participation rates and rely heavily on wild foods, with approximately 86 percent of rural Alaska households using wild game and 95 percent using fish (Wolfe 2012). The opportunity to participate in subsistence activities supports a variety of cultural and related values in rural communities. For example, the distribution of harvested fish and wildlife contributes to community stability through the sharing of resources.

Within the context of Kodiak Island's seasonal and cyclical employment, subsistence harvest of fish and wildlife resources takes on special importance. On Kodiak Island, subsistence is part of a rural economic system referred to as a mixed subsistence–market economy. Under this market system, families invest money in small-scale, efficient technologies to harvest wild foods. Families and in some cases communities on Kodiak Island have invested in gill nets, motorized skiffs, and other equipment to harvest important resources. Subsistence is not oriented toward sales, profits, or commercial production; it is focused toward meeting the needs of families and the community. Participants in this mixed economy augment their subsistence production with cash employment. Cash from employment provides the means to purchase equipment, supplies, and fuel used in subsistence activities. The combination of subsistence and commercial-wage activities provides the economic basis for the way of life in the City of Kodiak. Because of the high prices of commercial products in the City of Kodiak, the economic role of locally available fish and game takes on added importance. Subsistence resources also provide the foundation for Native culture in Kodiak and are deeply connected to traditional respect for the earth and its resources.

Resource collection of plants and animals occurs throughout the year in the Kodiak area, with late summer and early fall being the most intense collection period. Springtime harvest in the Kodiak area often involves fishing for Dolly Varden, hunting snowshoe hare and feral rabbits, and collecting bird eggs. Some small mammal hunting also occur in early spring, but most of that activity takes place in late fall and winter. Summer harvest is primarily focused on the salmon and halibut fisheries, and collection of vegetation and berries. Fall harvest primarily includes hunting for Sitka black-tailed deer, mountain goat, snowshoe hare, and waterfowl. Fishing also occurs in the fall, primarily for coho salmon. Winter harvest often includes some marine fishing and waterfowl hunting.

The Project Area encompasses marine and terrestrial areas around the Airport and includes all areas that would be directly affected by the build alternatives. This Project Area is the same as the area described in Section 4.5, Fish and Invertebrates, of the EIS.

Subsistence resources harvested within the Project Area include salmon, halibut, Dolly Varden, steelhead/rainbow trout, crab, octopus, shrimp, clam, sea cucumber, herring, smelt, waterfowl, harbor seal, sea lion, seaweed, kelp, salmonberry, and wood. The subsistence resources most likely to be present within the Project Area, and also most likely to be adversely affected by the proposed projects, are marine, intertidal, and riverine species, including anadromous fish.

Kodiak Area Harvest Information

The Alaska Department of Fish and Game (ADF&G) collected subsistence harvest data for the City of Kodiak (1993) and the USCG Base (1991) as part of their Community Profile Database. The information summarized below reflects the most representative year on record for each community.

These two studies are the most representative data on subsistence for the community of Kodiak (including the city and the USCG Base) to date. The studies represent years when enough data were collected on subsistence harvest from households to make statistical inferences regarding the entire population. Data and information gathered through interviews with local residents and discussions with state and Federal resource managers show that since the 1991 and the 1993 studies, changes in subsistence effort, harvest of most species, and use have been minimal, so the results of the studies are still applicable. An exception to the applicability of the harvest data from the 1991 and 1993 studies is regarding harvest data on sockeye and coho salmon.

Harvests of those two species, particularly at or near the Buskin River, have varied widely since the 1991 and 1993 studies. Additional information on the recent harvest of those two species is described below.

City of Kodiak residents harvested an estimated 151 pounds of subsistence resources per capita in 1993. In 1991, USCG Base residents harvested an estimated 115 per capita pounds of subsistence resources. Subsistence resources used by residents of both areas include fish, land mammals, marine mammals, birds and eggs, marine invertebrates, and vegetation (see Table 2). In general, the pattern of use is similar to that of the subsistence harvests by rural residents statewide.

Households in both the City of Kodiak and the USCG Base use, attempt to harvest, harvest, receive, and give subsistence resources (Tables 3, 4, and 5). The ADF&G Community Profile Database records indicate that 99 percent of City of Kodiak households and 100 percent of the USCG Base households use subsistence resources (Brown et al. 2001). There is a strong mix of individual harvesting resources by household combined with both giving and receiving resources between households.

In addition, residents of communities throughout the Kodiak Island region and in other parts of Alaska give and receive resources both to and from residents of the City of Kodiak and the USCG Base. Some resources harvested outside the immediate Project Area may be reported as being used locally even though the resource may not be harvested within the Project Area.

TABLE 2. RESOURCES HARVESTED AND REPORTED PER YEAR

Community (representative year)	Resources Harvested (pounds per capita)					
	Fish	Land Mammals	Marine Mammals	Birds/ Eggs	Marine Invertebrates	Vegetation
City of Kodiak (1993)	107.71	23.21	0.00	0.67	9.51	9.96
USCG Base (1991)	87.95	16.98	ND	0.12	7.34	2.88

Source: ADF&G 2013.
Note: ND = no data

TABLE 3. CITY OF KODIAK RESOURCE HARVEST BY MAJOR RESOURCE CATEGORY

Resource	Percentage of Households (%)					Per Capita Harvest (lbs.)
	Using	Attempting to Harvest	Harvesting	Receiving	Giving	
All Resources Combined	99.00	90.50	87.60	97.10	83.80	151.05
Fish	98.10	77.10	70.50	91.40	72.40	107.71
Salmon	93.30	73.30	68.60	73.30	61.00	47.74
Non-salmon	95.20	66.70	63.80	80.00	61.90	59.96
Land Mammals	77.10	47.60	38.10	58.10	31.40	23.21
Large	75.20	41.90	30.50	57.10	28.60	22.62
Small	20.00	19.00	13.30	11.40	5.70	0.59
Marine Mammals	1.90	1.00	1.00	1.90	1.00	0.00
Birds and Eggs	20.00	17.10	14.30	12.40	6.70	0.67
Marine Invertebrates	79.00	41.00	40.00	73.30	41.00	9.51
Vegetation	82.90	76.20	76.20	48.60	43.80	9.96

Source: ADF&G 2013.
Note: Information is for the most representative reporting year for City of Kodiak (1993).

TABLE 4. U.S. COAST GUARD BASE RESOURCE HARVEST BY MAJOR RESOURCE CATEGORY

Resource	Percentage of Households (%)					Per Capita Harvest (lbs.)
	Using	Attempting to Harvest	Harvesting	Receiving	Giving	
All Resources Combined	100.00	93.50	93.50	80.60	61.30	115.27
Fish	100.00	93.50	93.50	61.30	58.10	87.95
Salmon	96.80	93.50	90.30	45.20	54.80	32.64
Non-salmon	90.30	83.90	83.90	48.40	32.30	55.31
Land Mammals	67.70	64.50	54.80	38.70	16.10	16.98
Large	61.30	61.30	45.20	38.70	12.90	15.10
Small	35.50	48.40	35.50	3.20	9.70	1.88
Birds and Eggs	9.70	9.70	3.20	6.50	0.00	0.12
Marine Invertebrates	64.50	35.50	35.50	54.80	12.90	7.34
Vegetation	67.70	64.50	64.50	19.40	19.40	2.88

Source: ADF&G 2013.
Note: Information is for the most representative reporting year for the USCG Base (1991).

The following sections discuss subsistence resources and use in the Project Area. Much of the information was derived from the ADF&G community profile database (ADF&G 2013) regarding two studies completed in 1991 and 1993, respectively. These two studies are the most representative data on subsistence for the community of Kodiak to date. Since the 1991 and 1993 studies, changes in subsistence effort, harvest of most species, and use have been minimal and would not change the results of the study. In addition, information was gathered from resource managers and local residents to substantiate recent subsistence harvest efforts within the project area.

Subsistence Resources and Uses

Fisheries

Fish provide an important form of sustenance for the Kodiak road system, as in most of coastal Alaska. Due to Kodiak's strategic location in the Gulf of Alaska and abundant freshwater rivers, residents have access to both marine and freshwater fisheries throughout the region.

In the ADF&G studies, approximately 94 percent of the USCG Base residents and 77 percent of households in the City of Kodiak attempted to fish during the year of study, with approximately 94 percent of the USCG Base residents harvesting fish in 1991 and 71 percent of residents in the City of Kodiak harvesting fish in 1993 (See Tables 3 and 4). However, the importance of fishing is shown by the statistic that 100 percent of the USCG Base and 98 percent of the City of Kodiak households used fish resources during representative study years. The importance of subsistence in the community's culture (particularly for the City of Kodiak) is also shown by the following statistic: 91 percent of Kodiak residents received fish from others and 72 percent gave fish to others in 1991.

Salmon

As with many coastal communities in Alaska, salmon are a predominant subsistence resource. All five species of Pacific salmon found in Alaska are present in the waters surrounding Kodiak. In the City of Kodiak and the USCG Base subsistence harvest surveys, residents gathered approximately 48 pounds and 33 pounds of per capita salmon harvest, respectively. The most harvested salmon in the area is sockeye salmon, followed by coho salmon, pink salmon, Chinook salmon, and chum salmon.

Approximately 18.3 per capita pounds of sockeye salmon are harvested by Kodiak residents. Sockeye (or red) salmon return to the Kodiak area and the Buskin River in June and early July, although some Buskin River tributaries have sockeye runs that occur in July and August to coincide with annual flood events. The Buskin River drainage is the largest subsistence sockeye salmon fishery within the Kodiak/Aleutian Islands Federal Subsistence Region. Between 2002 and 2007, Buskin River subsistence users annually reported over 60 percent of the total sockeye salmon harvest for the Kodiak/Aleutians Islands Federal Subsistence Region (Tracy 2007, 2008). Sockeye salmon usually make up over 80 percent of the total Buskin River harvest, although other species are also caught.

The Buskin River sockeye fishery occurs in the nearshore marine waters adjacent to the river mouth (Figure 1). The fishery includes a closure area at the mouth of the Buskin River to protect returning adults as they emigrate to the mouth of the river. The fishery boundary and closure area shown on this figure were established by the Alaska Board of Fisheries and subsequently adopted by the Federal Subsistence Board.

State-regulated fisheries are not subject to the closure area at the mouth of the Buskin River, but the state has also kept this area closed to subsistence fishing. In 2011, the ADF&G opened the Buskin River closure area to subsistence fishing all the way to the Buskin River mouth due to the higher numbers than expected of returning sockeye to reduce potential of over escapement. Most of the Buskin River sockeye salmon fishery is harvested through the use of gill nets, although some residents use rod and reel. Most sockeye salmon are frozen, smoked, or canned to preserve the fish, so that it can be eaten throughout the year.

As a part of an effort to provide an update on the Buskin River sockeye salmon subsistence harvest, ADF&G conducted verbal interviews with subsistence users at the Buskin River fishing grounds in 2007. The interviews were conducted to determine user residency and patterns of historical fishing efforts. In June 2007, 103 residents of Kodiak were interviewed. Of those interviewed, 92 percent of residents viewed the Buskin River as their traditional subsistence fishing location, 4 percent viewed the Buskin River and one or two other areas as their traditional fishing spots, and 4 percent of residents indicated that they traditionally do not use the Buskin River for their subsistence fishing. In addition, approximately 56 percent of those interviewed had occasionally fished other areas besides their traditional location(s) (Tracy 2007).

In June 2008, 51 subsistence users were interviewed at the Buskin River in the same manner described for the 2007 effort. In the 2008 interview, approximately 96 percent of those interviewed were residents of Kodiak and the remaining 4 percent resided in other parts of Alaska. Approximately 98 percent of the subsistence users interviewed viewed the Buskin River as their traditional location for subsistence sockeye harvest, and 2 percent viewed another location as their traditional subsistence-use location. As with the 2007 study, approximately 54 percent of users stated that they occasionally fished in other areas besides their traditional location(s) (Tracy 2008).

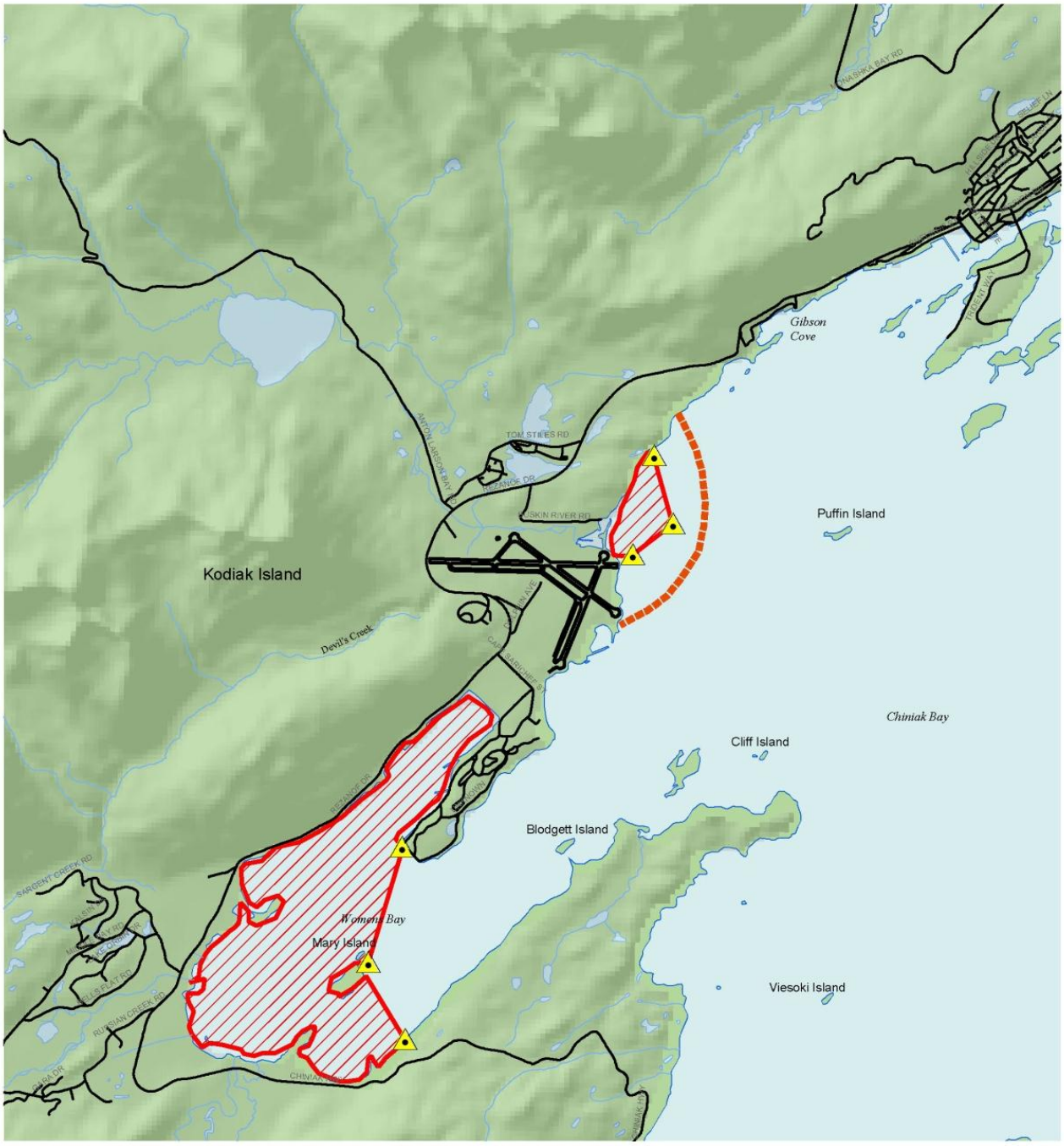


FIGURE 1. APPROXIMATE SUBSISTENCE FISHERY EXCLUSION AREAS AND BUSKIN RIVER SUBSISTENCE HARVEST AREA.

Table 5 provides 11 years of Buskin River salmon subsistence harvest, and it illustrates a significant decline of sockeye harvests in recent years. Information from ADF&G weir counts and discussions with ADF&G biologists suggest that the cause of the decline is attributable to an over-escapement of adult sockeye from 2001 to 2004, which reduced the survival of juvenile sockeye salmon rearing in the freshwater habitats of the Buskin River system. This reduced survival was caused by insufficient food within the freshwater system to support the increased number of smolts produced during the period of high escapement. Reduced numbers of surviving smolts and reduced body condition (i.e., smaller body size) during outmigration to salt water often correlate to reductions in returning adult salmonids. In 2010, ADF&G reduced the sockeye escapement goals from the Buskin River from 8,000 to 13,000 returning adults to 5,000 to 8,000 returning adult sockeyes (Nemeth et al. 2010) to reduce the potential for over-escaping the sockeye salmon carrying capacity in the Buskin River system.

TABLE 5. REPORTED BUSKIN RIVER DRAINAGE SUBSISTENCE HARVEST BY SALMON SPECIES, 2002–2012

	Chinook		Sockeye		Coho		Pink		Chum	
Year	# Fish	% of Total Harvest	# Fish	% of Total Harvest	# Fish	% of Total Harvest	# Fish	% of Total Harvest	# Fish	% of Total Harvest
2002	77	1	13,366	88	1,514	10	207	1	33	<1
2003	30	<1	10,651	87	1,247	10	238	2	30	<1
2004	98	1	9,421	84	1,496	14	188	2	38	<1
2005	94	1	8,239	74	2,415	22	272	3	26	<1
2006	41	<1	7,577	82	1,567	16	108	1	16	<1
2007	22	<1	11,151	88	1,193	10	192	2	15	<1
2008	33	<1	2,664	67	1,165	29	75	2	13	<1
2009	0	0	1,883	66	874	30	77	3	9	<1
2010	16	<1	1,514	63	679	28	146	6	38	2
2011	11	<1	4,674	92	287	6	67	1	15	<1
2012[1]	1	<1	2,409	69	911	26	154	4	8	<1

Sources: Tracy 2007, 2008, personal communication 2012; Nemeth et al. 2010, Shaker 2013.
[1] 2012 numbers are preliminary as of March 9, 2013.

Coho (or silver) salmon are the second highest harvested salmon species by Kodiak residents, with approximately 18 per capita pounds of harvest in 1993. The coho salmon run occurs from late August through early October. Most of the harvest of coho is by rod and reel and is within the Buskin River, usually within 0.5 mile of the river mouth. The coho fishery is not only popular with Kodiak residents; it is also popular among tourists for sport fishing.

Many people from around the United States and even other countries come to the Buskin River in the fall for the sport fishing opportunities. In 2010, the Buskin River had approximately 2,847 coho salmon harvested, as determined through the ADF&G Statewide Harvest Survey (ADF&G 2010), although some of that harvest is from non-residents and non-local residents of other Alaskan communities.

Pink salmon is the third most common salmon species harvested by Kodiak residents. The Buskin River pink salmon run typically occurs in August and has an average return of 110,000 fish (based on a 5-year average from 2003 to 2008). The City of Kodiak has an annual Kid's Fishing Derby during the pink salmon run, which attracts nearly 300 area children to the event. The ADF&G Statewide Harvest Survey in 2010 estimated the pink salmon harvest on the Buskin River at approximately 1,140 fish (ADF&G 2010), although some of that harvest is from non-residents and non-local residents of other Alaskan communities. Historically, the pink salmon fishery had been the most common subsistence fishery on the Buskin River after World War II, but as the sockeye and coho salmon populations have improved in recent years, more residents have moved toward using those fisheries.

Chinook (king) and chum (dog) salmon are also caught in the marine waters around the mouth of the Buskin River, although in much lower numbers than other salmon species (See Table 5). In the Buskin River itself, very few Chinook and chum salmon migrate up the river to spawn. In an average year, only one to two Chinook and around 30 chum salmon enter the Buskin River system (personal communication, Donn Tracy 2009a). In the past, Chinook salmon were stocked in the Buskin River, but ADF&G no longer stocks the Buskin River fishery.

Non-salmon Fisheries

Non-salmon fish also make up a large percentage of the annual subsistence harvest around Kodiak. The ADF&G Kodiak study found that approximately 60 per capita pounds of non-salmon fish were harvest by Kodiak residents in 1993. The largest percentage of the total per capita non-salmon fish harvest was halibut at 42 per capita pounds. This was followed by Pacific cod at 5 per capita pounds, rockfish at 4 per capita pounds, Dolly Varden at 3 per capita pounds, and lingcod at 2 per capita pounds. All of these species have been harvested for subsistence, in varying amounts, in the marine waters around the Airport or further offshore in Chiniak Bay.

Within the Project Area, halibut represent the highest harvest of non-salmon fish in the area. Halibut subsistence harvest estimates are presented for the Kodiak Island Road System Subarea (within Federal Subsistence Regulatory Area 3A) in Table 6. This subarea includes the City of Kodiak and those portions of the Kodiak Island Borough connected to the City of Kodiak by the road system. Subsistence fishers are required to obtain a subsistence halibut registration certificate (SHARC) from the National Marine Fisheries Service prior to fishing. A SHARC permit allows the use of rod and reel or one longline with up to 30 hooks and a bag limit of 20 fish per day. The estimates provided in Table 6 reflect only fishing by SHARC fishers within the subarea. All subsistence gear types (setline and hand-operated gear) are included in the harvest estimates (Fall et al. 2004; Fall et al. 2005; Fall et al. 2006).

In addition to the SHARC permits, some Kodiak residents harvest halibut under a sport fishing license. The ADF&G Statewide Harvest Survey for 2010 showed 10,669 halibut harvested in all of Chiniak Bay (ADF&G 2010), although some of that harvest is from non-residents and non-local residents from other Alaskan communities. The reported harvest represents a harvest area larger than the Project Area.

TABLE 6. ESTIMATED HALIBUT SUBSISTENCE HARVEST BY SHARC HOLDERS USING ALL GEAR TYPES WITHIN REGULATORY AREA 3A, KODIAK ISLAND ROAD SYSTEM SUBAREA, 2003–2010

	Estimated # Harvested	Estimated Pounds Harvested*
2003	4,511	114,027
2004	5,754	129,145
2005	7,244	134,849
2006	6,064	140,388
2007	6,455	130,538
2008	5,334	96,872
2009	5,910	108,049
2010	5,575	103,066

Sources: Fall et al. 2004; Fall et al. 2005; Fall et al. 2006; Fall et al. 2007; Fall et al. 2008; Fall et al. 2010; Fall et al. 2011; Fall et al. 2012.
Note: Estimated pounds given as net (dressed) weight, which is equal to 75 percent of round weight.

Pacific cod is typically harvested in deeper waters in the Kodiak area. Most Pacific cod harvest is from commercial fishing, but occasionally residents will catch Pacific cod while targeting other species. In addition, some commercial fishermen based in Kodiak keep some of their catch for personal consumption. Some Pacific cod are harvested in Chiniak Bay but are typically not found in the shallower waters around the Kodiak Airport.

Rockfish are another important non-salmon fish found in the Kodiak area. Rockfish typically prefer steep rocky habitats, such as those along the runways and at the runway ends of the Kodiak Airport. Because rockfish have a swim bladder to maintain buoyancy in various depths, rapid changes in depth can cause mortality among many rockfish species. Rapid changes in depth can be caused by being caught by sport or commercial anglers. This factor, along with late sexual maturity and slow reproductive rates, can quickly cause rapid population declines with many rockfish species. The 1993 ADF&G study found that black rockfish is the most common rockfish species caught by Kodiak residents at approximately 3 per capita pounds, followed by the yelloweye rockfish at less than 1 pound per capita. Interviews with local Kodiak residents indicate that a few rockfish are harvested within the Project Area.

Lingcod are another popular non-salmon fish species harvested in and around Kodiak. Approximately 2 pounds per capita of lingcod are harvested annually by Kodiak residents. Lingcod are not a true cod but are actually a member of the greenling family. They are voracious predators and are typically found in rocky reefs ranging in depth from 20 to 300 feet. Lingcod are typically not a targeted subsistence species but are often harvested when going after other desirable fish species, such as halibut or rockfish. As with rockfish, lingcod are susceptible to overharvesting due to late sexual maturity and slow reproductive rates. The ADF&G Statewide Harvest Survey showed approximately 2,419 lingcod harvested in all of Chiniak Bay (ADF&G 2010), although some of that harvest is from non-residents and non-local residents of other Alaskan communities, and the reported harvest represents a harvest area larger than the Project Area. Lingcod are harvested around the Project Area.

Dolly Varden is another subsistence resource found in high numbers in the Buskin River that are used by Kodiak residents. The 1993 ADF&G study found that approximately 3 pounds of Dolly Varden were harvested per capita by Kodiak residents in that representative year. Most Dolly Varden in the Buskin River are anadromous, meaning they migrate between fresh and salt water, although there are a few resident Dolly Varden found in the upper reaches of the watershed (personal communication, Donn Tracy 2009b). Kodiak residents often harvest Dolly Varden in the spring before the salmon runs. The beaches along the Buskin River are popular spots for that traditional fishery (Tracy 2009a). The ADF&G Statewide Harvest Survey found that 1,200 Dolly Varden were harvested in the Buskin River in 2010 (ADF&G 2010), and 707 Dolly Varden were harvested in marine waters around Chiniak Bay, although some of that harvest is from non-residents and non-local residents of other Alaskan communities, and the reported harvest represents a harvest area larger than the Project Area.

Rainbow trout and steelhead are also found in the Buskin River and the marine waters adjacent to the river. Rainbow trout are sometimes caught in the Buskin River, particularly while people are fishing for salmon. In the past, rainbow trout were stocked in the Buskin River, but ADF&G no longer enhances the population through stocking. Steelhead are the anadromous version of rainbow trout. The Buskin River steelhead fishery is a fall-run fishery. Steelhead return to the Buskin in the fall (typically September through November) to spawn in the river or at Buskin Lake. The average spawning return for steelhead is around 500 fish and roughly 20 percent of the spawning return are adult fish returning to spawn more than once in their lifetime (Tracy 2009a).

Land Mammals

Land mammals, both large and small are harvested by Kodiak residents. The 1993 Kodiak study found that 77 percent of households attempted to harvest land mammals and 48 percent were successful in harvesting land mammals during that year. Kodiak residents harvested 23 per capita pounds of various land mammals.

The greatest amount of harvest was Sitka black-tailed deer with 15 pounds of per capita harvest, along with mountain goat at less than 1 pound of per capita harvest. The remaining per capita harvest included large land mammals that do not occur on Kodiak Island and were likely harvested in other locations in Alaska. Small mammal harvest accounted for less than 1 pound per capita, with all reported harvest coming from snowshoe hares. No large mammal harvest is known to occur within the Airport Project Area, and interviews with local residents indicate a few snowshoe hares are harvested in the upper reaches of the Buskin River near the Airport.

Marine Mammals

Under the Marine Mammal Protection Act, only coastal Alaska Natives may hunt marine mammals. Due to the limited population of Alaska Natives on the Kodiak road system, only a small proportion of the population can legally harvest marine mammals. The 1993 study of Kodiak residents found that no residents harvested marine mammals during that representative year.

However, during that year, hunters had attempted to harvest harbor seals, sea otters, and whales, though they had not been successful. A subsequent study by the ADF&G Division of Subsistence and the Alaska Native Harbor Seal Commission found that Kodiak residents harvested 63 harbor seals and three Steller sea lions in 2008 (Wolfe et al. 2009). Discussions with key subsistence users from Kodiak found that some hunters harvest harbor seals in the marine waters around Kodiak Airport.

Birds and Eggs

Waterfowl is an important subsistence resource for the community of Kodiak, as it provides a source of food when land or marine mammals are unavailable. In late fall, waterfowl return to Kodiak Island for overwintering before heading back to northern and western Alaska in the spring for nesting and brooding. Under the Migratory Bird Treaty Act, permanent residents of rural Alaskan communities within a subsistence harvest area may harvest migratory birds outside of established hunting seasons.

The most frequently harvested type of birds are migratory waterfowl at less than 1 pound per capita, with mallards being the most common species harvested. Other migratory waterfowl species harvested by Kodiak residents include common eiders, buffleheads, scoters, scaup, goldeneyes, harlequin ducks, and mergansers. The marine and nearshore environment around the Airport was identified as common harvesting locations for waterfowl. Under the Migratory Bird Treaty Act, migratory birds must be harvested using shotguns and non-toxic shot.

The only non-migratory bird harvested by Kodiak residents is ptarmigan, with approximately 0.10 per capita pounds of annual harvest. Ptarmigan are often hunted during late fall and winter, when the birds can be found in large groups. Ptarmigan are not harvested around the Airport, as they are usually found in higher elevation treeless areas.

Some residents also harvest bird eggs in the spring, but information on what species of bird eggs Kodiak residents harvest was not available in part because, for many people, it is difficult to determine species from egg characteristics.

Marine Invertebrates

Households in Kodiak collect approximately 10 pounds of marine invertebrates per capita. Most marine invertebrates consist of various clam and crab species. Crabs are the largest portion of marine invertebrate harvest in Kodiak, with approximately 5 pounds of per capita harvest.

Residents of Kodiak harvest Dungeness crabs, King crabs, and tanner crabs for personal use. This fishery is often incidental to other recreational boat outings, such as fishing for salmon or halibut. Crab pots, ring nets, diving gear, dip nets, and hooked or hookless handlines can all be used to harvest crab for personal use. Dungeness crabs are sometimes stranded by minus tides and can be picked up by an observant beachcomber.

Personal use anglers usually bait their pots or hooks with the most convenient bait, typically fresh fish carcasses. Within the Project Area, most marine invertebrate harvest consists of Dungeness crab, with King crab and tanner crab harvested in deeper waters away from the Airport.

Clams contribute over 3 pounds per capita to the diet of Kodiak residents. The most popular clam harvested is butter clams, followed by razor clams, Pacific littleneck clams (steamers), limpets, and chitons. Other invertebrates harvested by Kodiak residents include octopus, scallops, sea cucumbers, and sea urchins.

The butter or hard-shell clam, also known as the northern quahog, is the most abundant species in the Kodiak region in terms of its both availability and actual harvest levels. Adults average about four inches in diameter. Residents can easily find butter clams at low tide in the numerous gravel and rock beaches around Kodiak.

The marine nearshore environment around the Buskin River mouth historically was used as an important razor clam harvesting location. However, the 1964 earthquake destroyed the razor clam beds, and this species has not returned in large numbers. Instead, some residents currently gather butter clams and Pacific littleneck clams in the area. The steamer or Pacific littleneck clam is smaller than the butter clam, averaging 2 inches in diameter, but it occupies the same habitat. Many people, especially those without a boat, dig clams close to town. Those with boats travel further other areas around Kodiak Island. Some individuals gather clams along portions of Chiniak Bay, directly adjacent to the Airport.

Residents can find clams throughout the year, but only collect them during certain months due to the threat of paralytic shellfish poisoning. During the warm summer months and early autumn, phytoplanktons inundate the waters of many coastal areas. Some of the phytoplankton produce neurotoxins that mollusks ingest during feeding and concentrate in their tissues. The principal neurotoxin is saxitoxin, which is a strong natural poison. Of all marine invertebrates, clams and mussels are the most dangerous to consumers.

Limpets are another marine invertebrate harvested by some residents in the Kodiak area. Limpets are a type of marine snail found on rocky substrate in the intertidal zone. Limpets have flattened cone-shaped shells and are commonly found adhering strongly to rocks or other hard substrates, looking like little bumps on the surface. Many limpet shells are often covered in microscopic growths of green marine algae, which can make them even harder to see, as they can closely resemble the rock surface itself. Limpets typically occupy the same location on a rock during resting and will return to that location after feeding. The limpet shell grows to match the contours of their home location on the rock and can squeeze the shell tightly against the rock surface to protect against waves, currents, and predators.

Residents also find chitons or gumboots in the Kodiak area. Kodiak residents harvest two species of chitons; the giant Pacific chiton or gumboot, and the lined chiton. All are edible, and people often use the term “gumboot” to describe both species. Gumboots occupy boulder-strewn, wave-beaten outer beaches, not gravel, sand, or mud habitats like most other mollusks. Interviews with Kodiak residents provided information that other marine invertebrates such as octopus, sea cucumbers, and sea urchins are sometimes gathered in rocky nearshore environments around the Airport.

Vegetation

Plant gathering is a popular resource use activity in Kodiak when measured by the amount of harvest. Approximately 10 pounds per capita of vegetation were harvested by Kodiak residents in 1993 according to the City of Kodiak study. Of those 10 pounds, the vast majority of the harvest was berries (approximately 9 pounds per capita). Most berry harvest around Kodiak includes species such as salmonberries and blueberries.

Plant gathering and berry picking is the easiest of the harvest activities, especially for residents who do not have the means or equipment to hunt or fish. It can be done close to home, equipment is minimal, and little experience is required. Other types of plant collection, however, often demand substantial knowledge. Making full use of edible plants in the Kodiak area requires a familiarity with edible plant identification, productive locales, harvest times, preparation and preservation methods, and non-food uses (such as medicine or dyes). In traditional times, Kodiak residents used a wide assortment of plants. Interviews with elder residents in Kodiak indicate that modern residents of Kodiak do not use as many plants for subsistence as did historical residents. However, some residents still use several plants, including several varieties of berries, greens, roots, and wood.

According to the 1993 Kodiak survey approximately 71 percent of Kodiak households harvest berries during the summer and early fall, with the prime months being July and August. Residents use berries in a variety of ways. The most common use of berries is to eat them raw. Many people, however, bring back large quantities to freeze, make into pies, sauces, or preserve as jams and jellies. The berries most commonly picked in the Kodiak area are salmonberries. Salmonberries are harvested in some locations in riparian areas along the Buskin River. Other berries collected by Kodiak residents include blueberries and cranberries, but there are no known locations of harvest of these berries within the Project Area.

The Kodiak area contains several edible wild greens. Local residents regularly harvest various greens, such as devil's club and fiddlehead ferns in terrestrial environments and beach purslane, goosetongue, and seaweed/kelp in marine nearshore environments. Most Kodiak residents use greens to supplement their diet or for medicinal purposes. Seaweed and kelp are mostly used for fertilizer. In addition, approximately 35 percent of Kodiak residents use gathered wood for firewood, smoking fish and meats or to make handicrafts. Within the project area, residents have indicated that alder wood is sometimes collected along the Buskin River for use in smoking fish and meats.

ANILCA Section 810(a) Evaluations and Findings for All Alternatives and the Cumulative Case

The following evaluations are based on information relating to the environmental and subsistence consequences of all alternatives and the cumulative case as presented in the Cumulative Impacts section of Chapter 4 (Environmental Consequences) of the EIS. This section also considers stipulations discussed in Chapter 2 (Alternatives) of the EIS for the alternatives to which they apply.

The beginning of this appendix provides information on what is required under ANILCA Section 810 for an evaluation of public lands, including the definition of "public lands." In contrast, Chapter 4 (Environmental Consequences) of the EIS evaluates the impacts to subsistence on all lands, not just federal public lands. The evaluations and findings in this appendix focus on potential impacts to the subsistence resources themselves, as well as access to resources and changes to subsistence harvesting patterns.

The assessment of impacts on subsistence resources and uses includes two factors:

- Assessment using the thresholds established for the biological resources identified as being subsistence resources, and
- A subsequent determination as to whether the impacts on those resources would cause an effect on Kodiak residents' ability to gather those resources.

For context, the assessment of impacts for subsistence resources and uses also includes acres of marine habitat impacted by the proposed actions within the Buskin River subsistence fishery area (approximately 316 acres).

Evaluation and Findings for Runway 07/25 RSA Alternative 1 (No Action)

Alternative 1 (No Action) would maintain the existing RSAs for Runway 07/25.

Evaluation of the Alternative's Effect of Use, Occupancy, or Disposition on Subsistence Resources and Uses

Alternative 1 would make no changes to the RSAs at the Kodiak Airport. The analysis of Alternative 1 presented in Section 4.11.4.1.1, (Environmental Consequences, Subsistence) of the EIS concludes that this alternative would result in no impacts to abundance of subsistence resources, availability of subsistence resources for harvest, or access to and competition for subsistence resources around the Airport.

Evaluation of the Availability of Other Lands for Airport Improvements

Runway 07/25 RSA Alternative 1 would use public lands managed by the USCG for the existing Airport. The RSAs are tied specifically to the Airport runways. The only way to meet FAA RSA standards to the extent practicable and not use public lands would be to move the Airport to another location on the island. Relocating the Airport to another location does not meet the purpose and need of the project.

Evaluation of Other Alternatives That Would Reduce or Eliminate the Use, Occupancy, or Disposition of Public Lands Needed for Subsistence Purposes

All action alternatives proposed in the EIS would use public lands jointly managed by the USCG and the USFWS's Alaska Maritime National Wildlife Refuge. This alternative would not remove public lands used for subsistence purposes because this alternative would not change the RSAs. Of all the RSA alternatives presented in the EIS, only Runway 07/25 RSA Alternative 1 (No Action) and Runway 18/36 RSA Alternative 1 (No Action) would use no public lands used for subsistence purposes. Runway 07/25 RSA Alternative 3 and Runway 18/36 RSA Alternative 5 would use the highest amount of public lands needed for subsistence purposes.

Findings

Runway 07/25 RSA Alternative 1 would not significantly restrict subsistence resources and uses on public lands. This alternative would not affect the abundance or availability of subsistence resources for harvest, because this alternative would not change the RSAs. Runway 07/25 RSA Alternative 1 also would not affect access to or competition for subsistence resources on federal public lands.

The FAA makes the following findings for Runway 07/25 RSA Alternative 1:

(A) There would not be a significant restriction to subsistence resources as a result of Runway 07/25 RSA Alternative 1, but the alternative does not meet the runway safety area needs of the Kodiak Airport.

(B) Runway 07/25 Alternative 1 would not use any federal public lands, but this alternative does not meet the need for improved runway safety areas.

(C) Because no adverse effects would occur from Runway 07/25 Alternative 1, no additional steps would be necessary to minimize adverse impacts to subsistence resources and uses.

Evaluation and Findings for Runway 07/25 RSA Alternative 2

Because all the Runway 07/25 action alternatives (Runway 07/25 Alternatives 2 and 3) have little impact to lands above mean high tide and few, if any, subsistence users use those areas for terrestrial resource harvest, it is anticipated that there would be no effects to terrestrial subsistence species. Therefore, this analysis will not discuss terrestrial resource effects and will instead focus on marine and estuarine impacts for those alternatives.

Runway 07/25 Alternative 2 would extend the RSA on Runway end 25 by approximately 600 feet and install a 70-knot Engineered Material Arresting System (EMAS).

Evaluation of the Alternative's Effect of Use, Occupancy, or Disposition on Subsistence Resources and Uses

Alternative 2 would result in the direct loss of 8.6 acres of freshwater-influenced subtidal and intertidal marine habitat and 9.1 total acres of marine habitat. The total amount of marine fill represents approximately 2.9 percent of the 316 acres of marine habitat used for subsistence harvest within the Project Area. Additional impacts to aquatic habitat from Runway 07/25 Alternatives are shown in Table 4.5-1 of the EIS.

Construction Completion Year (2015): The greatest impact to subsistence resources under this alternative would be through loss of habitat for marine resources, particularly marine invertebrates and fishes. Immobile or less mobile species within the fill footprint would be buried by placement of fill. More mobile marine species, such as fish and crab, that are not dependent on the Buskin River freshwater plume would relocate to other available habitats. The alternative's fill footprints are relatively small in comparison to the total amount of subtidal soft-bottom substrates in Chiniak Bay; therefore, the Runway end 25 RSA fill footprints are not expected to have a measureable effect on the total population of marine species in Chiniak Bay, but species that rely on the Buskin River freshwater plume (such as juvenile salmonids) would be forced into lower quality rearing and transition habitat, which would likely increase early marine mortality. Population-level effects to abundance and availability for subsistence resources would not be felt by subsistence users during construction, but these effects would instead be felt in the long term, when loss of habitat and prey species for juvenile salmonids would eventually affect returning adult populations.

Another potential effect from expanding Runway end 25 into the marine environment is that the RSA extension may require regulatory revisions to the exclusion zone boundaries for the Buskin River subsistence fishery. Currently, one of the points of reference for the exclusion zone is located at the current end of Runway 25. Expanding the landmass may move the reference point further out into Chiniak Bay and affect the size of the exclusion zone. This may reduce the number of ideal fishing locations near the Buskin River.

During construction, subsistence users would be unable to physically access locations where fill is being placed to collect subsistence resources. This would cause some local users to be displaced to other nearby areas to gather resources, which would likely increase competition for subsistence resources with other users in those new locations.

Future Year (2025): The overall biotic community adversely impacted by construction activities should return to existing conditions in the foreseeable future. Some habitat would be converted from soft-bottomed to gravel, cobble, and rock, so there would be a long-term change in species assemblage.

The alternative would remove 9.1 acres of marine habitat close to the mouth of the Buskin River, much of which is unique freshwater-influenced habitat in Chiniak Bay. It would adversely affect juvenile salmon species by reducing the amount of shallow, sandy-bottom habitat and forcing smolts into deeper, rockier habitat. In addition, fill placed in the shallower, freshwater-influenced habitat would displace important prey species for juvenile salmonids, such as the Pacific sand lance larvae, capelin larvae, and surf smelt larvae. Juvenile salmonids following the shoreline into deeper waters around the runway footprints would be exposed to additional predation by larger fish that inhabit deeper waters, and also by fish that would inhabit the new rocky intertidal and subtidal habitats created by the rock armor fill. The loss of both important habitat and critical food sources may have an adverse effect on all juvenile salmonids and, subsequently, on returning adult populations. This effect may include a noticeable reduction in per capita harvest of these resources.

Subsistence users would be permanently displaced from the existing Runway end 25, thereby reducing the amount of open water available for harvest of fish, marine invertebrates, and waterfowl. Some individual users would be displaced from their traditional fishing locations, which would likely affect competition in other nearby locales. However, given the amount of open water available in the Subsistence Use Area for harvest, this alternative is not expected to have significant short- and long-term impacts on subsistence users' ability to access subsistence resources or significantly change the level of competition for subsistence resources. Runway 07/25 Alternative 2 would affect 2.9 percent of the Subsistence Use Area and would not affect the ability of subsistence users to access the remaining waters for subsistence harvest.

This alternative may have significant long-term impacts to abundance and availability of subsistence resources. Effects on abundance and availability in the affected important freshwater plume habitat are a result of increased mortality of salmon smolts and, subsequently, returning adult salmonids. Subsistence users are likely to notice a long-term measurable decline in salmonid abundance and availability, and per capita harvests of salmonids are likely to decrease, resulting in significant impacts to abundance and availability of subsistence resources and their use.

Evaluation of the Availability of Other Lands for Airport Improvements

Runway 07/25 RSA Alternative 2 would use public lands jointly managed by the USCG and the USFWS's Alaska Maritime National Wildlife Refuge. The RSAs are tied specifically to the Airport runways. The only way to meet FAA RSA standards to the extent practicable and not use public lands would be to move the Airport to another location on the island. Relocating the Airport to another location does not meet the purpose and need of the project.

Evaluation of Other Alternatives That Would Reduce or Eliminate the Use, Occupancy, or Disposition of Public Lands Needed for Subsistence Purposes

All action alternatives proposed in the EIS would use public lands jointly managed by the USCG and the USFWS's Alaska Maritime National Wildlife Refuge. This alternative would remove 9.8 acres of public lands used for subsistence purposes. Of all the RSA alternatives presented in the EIS, only Runway 07/25 RSA Alternative 1 (No Action) and Runway 18/36 RSA Alternative 1 (No Action) would use no public lands used for subsistence purposes. Runway 07/25 RSA Alternative 3 and Runway 18/36 RSA Alternative 5 would use the highest amount of public lands needed for subsistence purposes.

Runway 07/25 RSA Alternative 2 would have the least impact to subsistence resources and uses of any of the action alternatives for Runway 07/25.

Findings

Runway 07/25 RSA Alternative 2 may significantly restrict subsistence resources and uses on public lands. Significant effects to subsistence resources primarily result from placement of fill onto freshwater-influenced marine habitat. Over the long term, this may result in reductions in abundance and availability of salmon for harvest.

While some individuals would have to relocate to similar harvesting locations due to placement of fill at their current subsistence harvesting locations, this alternative would not result in substantial interference in harvestable access or major increases in competition.

The FAA makes the following findings for Runway 07/25 RSA Alternative 2:

(A) Any significant restriction of subsistence uses that would result from Runway 07/25 RSA Alternative 2 would be necessary to meet the runway safety needs of the Kodiak Airport and would be consistent with sound management principles for the utilization of the public lands.

(B) Runway 07/25 Alternative 2 would involve the least amount of public lands necessary to meet the need for improved runway safety areas at the Kodiak Airport.

(C) Reasonable steps would be taken to minimize adverse effects upon subsistence uses and resources resulting from Runway 07/25 Alternative 2. To minimize adverse impacts during construction, fill placement would only occur during periods when subsistence harvest is low and there would be minimal impact to migrating salmon. Additional construction and design measures are presented in Section 4.22 and Chapter 6 of the Final EIS.

Evaluation and Findings for Runway 07/25 RSA Alternative 3

Runway 07/25 RSA Alternative 3 would extend the RSA on Runway end 25 by approximately 1,000 feet.

Evaluation of the Alternative's Effect of Use, Occupancy, or Disposition on Subsistence Resources and Uses

Alternative 3 would result in the direct loss of approximately 8.9 acres of freshwater influenced marine habitat and 15.1 total acres of marine habitat. This represents approximately 4.8 percent of the 316 acres of marine habitat used for subsistence harvest within the Project Area. Additional impacts to aquatic habitat from Runway 07/25 Alternatives are shown in Table 4.5-1 of the EIS.

Construction Completion Year (2015): The impacts to subsistence resources under Runway 07/25 Alternative 3 would be similar to those described for Alternative 2 but larger due to a larger fill footprint.

Future Year (2025): As with Runway 07/25 Alternative 2, the expanded RSA for Alternative 3 would result in a loss of both important habitat and critical food sources for all juvenile salmonids and, subsequently, impacts on returning adult populations. Juvenile salmonids following the shoreline into deeper waters around the runway footprints would be exposed to additional predation by larger fish that inhabit deeper waters, and also by fish that would inhabit the new rocky intertidal and subtidal habitats created by the rock armor fill.

The habitat loss would be larger than under Alternative 2 (15.1 acres). As with Alternative 2, this effect would include a noticeable reduction in per capita harvest of these resources. Due to the importance of the habitat impacted, Runway 07/25 Alternative 3 would have significant long-term impacts to abundance and availability of subsistence resources. Increased smolt mortality and reductions in returning adult salmonids would reduce subsistence resource abundance and availability. Per capita harvests of salmonids would likely decrease.

Subsistence users would be permanently displaced from a larger area of the Subsistence Use Area than under Alternative 2 (4.8 percent versus 2.9 percent), but they would still be able to access the remaining waters for subsistence harvest. Therefore, there would be no significant impact in the long term related to subsistence access or competition.

Evaluation of the Availability of Other Lands for Airport Improvements

Runway 07/25 RSA Alternative 3 would use public lands jointly managed by the USCG and the USFWS's Alaska Maritime National Wildlife Refuge. The RSAs are tied specifically to the Airport runways. The only way to meet FAA RSA standards to the extent practicable and not use public lands would be to move the Airport to another location on the island. Relocating the Airport to another location does not meet the purpose and need of the project.

Evaluation of Other Alternatives That Would Reduce or Eliminate the Use, Occupancy, or Disposition of Public Lands Needed for Subsistence Purposes

All action alternatives proposed in the EIS would use public lands jointly managed by the USCG and the USFWS's Alaska Maritime National Wildlife Refuge. This alternative would remove 15.8 acres of public lands used for subsistence purposes. Of all the RSA alternatives presented in the EIS, only Runway 07/25 RSA Alternative 1 (No Action) and Runway 18/36 RSA Alternative 1 (No Action) would use no public lands used for subsistence purposes. Runway 07/25 RSA Alternative 3 and Runway 18/36 RSA Alternative 5 would use the highest amount of public lands needed for subsistence purposes.

Findings

Runway 07/25 RSA Alternative 3 may significantly restrict subsistence resources and uses on public lands. Significant effects to subsistence resources would result primarily from placement of fill onto freshwater-influenced marine habitat. Over the long term, this may result in reductions in abundance and availability of salmon for harvest.

While some individuals would have to relocate to similar harvesting locations due to placement of fill at their current subsistence harvesting locations, this alternative would not result in substantial interference in harvestable access or major increases in competition.

The FAA makes the following findings for Runway 07/25 RSA Alternative 3:

(A) Any significant restriction of subsistence uses that would result from Runway 07/25 Alternative 3 would not be necessary or consistent with sound management principles for the utilization of the public lands. Runway 07/25 RSA Alternative 2 would meet the runway safety needs of the Kodiak Airport with less impact on subsistence uses.

(B) Runway 07/25 Alternative 3 would use the most public lands necessary to meet the need for improved runway safety areas. Runway 07/25 RSA Alternative 2 would involve a smaller amount of public lands and still meet the runway safety needs of the Kodiak Airport.

(C) Reasonable steps would be taken to minimize adverse effects upon subsistence uses and resources resulting from Runway 07/25 Alternative 3. To minimize adverse impacts during construction, fill placement would only occur during periods when subsistence harvest is low and there would be minimal impact to migrating salmon. Additional construction and design measures are presented in Section 4.22 and Chapter 6 of the Final EIS.

Evaluation and Findings for Runway 18/36 RSA Alternative 1

Runway 18/36 RSA Alternative 1 (No Action) of the EIS would maintain the existing RSAs for Runway 18/36.

Evaluation of the Alternative's Effect of Use, Occupancy, or Disposition on Subsistence Resources and Uses

Runway 18/36 RSA Alternative 1 would make no changes to the RSAs at the Kodiak Airport. For all lands in the project area, the analysis of Runway 18/36 RSA Alternative 1 presented in Section 4.11.4.2.1 (Environmental Consequences, Subsistence) of the EIS concludes that this alternative would result in no impacts to abundance of subsistence resources, availability of subsistence resources for harvest, or access to and competition for subsistence resources around the Airport.

Evaluation of the Availability of Other Lands for Airport Improvements

Runway 18/36 RSA Alternative 1 would use public lands managed by the USCG. The RSAs are tied specifically to the Airport runways. The only way to meet FAA RSA standards to the extent practicable and not use public lands would be to move the Airport to another location on the island. Relocating the Airport to another location does not meet the purpose and need of the project.

Evaluation of Other Alternatives That Would Reduce or Eliminate the Use, Occupancy, or Disposition of Public Lands Needed for Subsistence Purposes

All action alternatives proposed in the EIS would use public lands jointly managed by the USCG and the USFWS's Alaska Maritime National Wildlife Refuge. This alternative would not remove acres of public lands used for subsistence purposes because it would not change the RSAs for the runway. Of all the RSA alternatives presented in the EIS, only Runway 07/25 RSA Alternative 1 (No Action) and Runway 18/36 RSA Alternative 1 (No Action) would use no public lands used for subsistence purposes. Runway 07/25 RSA Alternative 3 and Runway 18/36 RSA Alternative 5 would use the highest amount of public lands needed for subsistence purposes.

Findings

Runway 18/36 RSA Alternative 1 would not significantly restrict subsistence resources and uses on public lands. This alternative would not restrict abundance or availability of subsistence resources for harvest because this alternative would not change the RSAs for the runway. Runway 18/36 RSA Alternative 1 also would not affect access to or competition for subsistence resources on federal public lands.

The FAA makes the following findings for Runway 18/36 RSA Alternative 1:

(A) There would not be a significant restriction to subsistence resources as a result of Runway 18/36 RSA Alternative 1, but the alternative does not meet the runway safety area needs of the Kodiak Airport.

(B) Runway 18/36 Alternative 1 would not use any federal public lands, but this alternative does not meet the need for improved runway safety areas.

(C) Because no adverse effects would occur from Runway 18/36 Alternative 1, no additional steps would be necessary to minimize adverse impacts to subsistence resources and uses.

Evaluation and Findings for Runway 18/36 RSA Alternative 2

Runway 18/36 RSA Alternative 2 would extend the RSA by 240 feet on Runway end 18 and by 600 feet for Runway 36. A 40-knot EMAS would be installed on the newly created landmass on Runway end 18.

Evaluation of the Alternative's Effect of Use, Occupancy, or Disposition on Subsistence Resources and Uses

Because all the Runway 18/36 action alternatives (Runway 18/36 Alternatives 2 through 7) have little impact to lands above mean high tide and few, if any, subsistence users use those areas for terrestrial resource harvest, it is anticipated that there would be no effects to terrestrial subsistence species. Therefore, this analysis will not discuss terrestrial resource effects and will instead focus on marine and estuarine impacts for those alternatives.

Alternative 2 would result in the direct loss of 2.2 acres of freshwater-influenced subtidal and intertidal marine habitat and 11.2 acres of overall marine habitat. This represents approximately 3.5 percent of the 316 acres of marine habitat used for subsistence harvest within the Project Area. Additional impacts to aquatic habitat from Runway 18/36 Alternatives are shown in Table 4.5-2 of the EIS.

Construction Completion Year (2015): The greatest impact to subsistence resources would be through loss of habitat for marine and terrestrial subsistence resources, particularly marine invertebrates, terrestrial vegetation, and fishes. Marine invertebrates affected include crab, clam, mussel, chiton, and limpet; fish species include all five species of salmon found in Alaska, halibut, herring, rockfish, lingcod, and Dolly Varden. Immobile or less mobile species would likely be crushed and buried by placement of fill. More mobile marine species, such as fish and crab, that are not dependent on the Buskin River freshwater plume would relocate to other available habitats. However, the assemblage of species may be different from what is currently at the runway end due to changes in the marine substrate from a mud and sand-based bottom to a rocky substrate. In addition, population-level effects to abundance and availability for subsistence resources would not be felt by subsistence users during construction. Instead, these effects would be felt in the long term, when loss of habitat and prey species for juvenile salmonids would eventually affect returning adult populations.

Placement of fill at Runway end 36 would impact subsistence resources, primarily from placement of fill. However, because the area has an extremely steep shoreline composed of rock armor and boulders, limited algal cover, and low habitat complexity, effects to subsistence resources and uses from fill on Runway end 36 are not expected to be significant.

During construction, subsistence users would be unable to access locations where fill is placed to collect subsistence resources. This would cause some local users to be displaced to other nearby areas to gather resources, which would likely increase competition for subsistence resources with other users in those new locations.

Future Year (2025): Colonization by invertebrate species similar to those supported by the existing rock armor shoreline is expected to be completed between the completion of construction and the future year (2025). Of the proposed alternatives, those involving Runway end 18 and the Buskin River barrier bar (all alternatives except Alternative 7) may have the greatest impact on aquatic and terrestrial habitats and species in the long term. This is largely from changes in habitat on Runway end 18 from a shallow soft-bottom habitat to a deeper and rocky habitat. These alternatives (Runway 18/36 Alternatives 2 through 6) would result in larger changes to existing slopes and substrates than would alternatives that place fill at Runway end 36.

Because these alternatives would place fill on Runway end 18, they may result in the greatest change to biological communities. Species that use rocky marine habitats would likely be different from those that use the existing soft-bottomed habitats. Abundance of subsistence species associated with rocky marine habitat such as rockfish and lingcod may increase with the resulting increase in rocky marine habitat. Flat fish, such as halibut and flounder, would be displaced to shallow-water, soft-bottom habitats that surround the project footprint.

The placement of fill along the barrier bar of the Buskin River would change the freshwater plume location, affect the freshwater to saltwater concentration (See EIS Section 4.2, Water Quality and Resources, for discussion of geomorphology), and remove shallow, soft-bottom habitat along the Buskin River barrier bar. This would affect all juvenile salmon species that use the Buskin River barrier bar adjacent to the mouth by forcing them to relocate from a shallow, sandy-bottom habitat to a deeper, rockier habitat. Juvenile salmonids in estuarine and nearshore marine environments prefer shallow waters (less than 20 feet in depth) (Salo 1991) and are typically surface oriented (Moulton 1997; Shaffer 2002). Some species, such as pink and chum salmon, typically school in very shallow (often only a few centimeters deep for pink salmon) nearshore waters closely following the shoreline (Groot and Margolis 1991). These species prefer shallow, sandy habitat over deeper, rocky habitat when transitioning to salt water. Therefore this alternative would adversely affect juvenile salmonid populations by forcing them to use lower quality habitat for rearing and transition (See EIS Section 4.5, Fish and Invertebrates, for more information). This alternative would result in a significant loss of shallow, sand-bottom habitat for juvenile salmonids and Dolly Varden at the Buskin River mouth.

In addition, fill placed in the shallower, freshwater-influenced habitat would displace important prey species for juvenile salmonids, such as the Pacific sand lance larvae, capelin larvae, and surf smelt larvae. Pacific sand lance spawn only in intertidal sand to fine gravel, and their larvae are a primary prey source for juvenile sockeye salmon in estuarine areas. Capelin larvae and surf smelt larvae are important prey species for juvenile coho salmonids.

Because most juvenile salmon mortality in the marine environment occurs within the first few months of entry, food availability during the transitional estuarine life stage is crucial to increase survival. If these food sources are substantially reduced or eliminated, juvenile salmonids and, in later years, returning adult salmonids could be adversely affected over the long term (See EIS Section 4.5, Fish and Invertebrates, for more information). The loss of both important habitat and critical food sources would have an adverse effect on all juvenile salmonids and, subsequently, on returning adult populations. This effect would include a noticeable reduction in per capita harvest of these resources.

Subsistence users would be permanently displaced from the existing Runway ends 18 and 36 due to placement of fill, thereby reducing the amount of open water available for harvest of fish, marine invertebrates, and waterfowl. Some individual users would be displaced from their traditional fishing locations, particularly near Runway end 18, which would likely affect competition in other nearby locales.

Due to the importance of the habitat impacted, particularly the freshwater-influenced marine habitat that is important for juvenile salmonids and salmonid prey, this alternative would have significant long-term impacts to abundance and availability of subsistence resources. Effects to abundance and availability from affected habitat is a result of increased mortality of salmon smolts and, subsequently, returning adult salmonids. Subsistence users are likely to notice a long-term measurable decline in salmonid abundance and availability, and per capita harvests of salmonids are likely to decrease. Therefore, Runway 18/36 RSA Alternative 2 would have a significant impact on abundance and availability of subsistence resources and uses of those resources.

Evaluation of the Availability of Other Lands for Airport Improvements

Runway 18/36 RSA Alternative 2 would use public lands jointly managed by the USCG and the USFWS's Alaska Maritime National Wildlife Refuge. The RSAs are tied specifically to the Airport runways. The only way to meet FAA RSA standards to the extent practicable and not use public lands would be to move the Airport to another location on the island. Relocating the Airport to another location does not meet the purpose and need of the project.

Evaluation of Other Alternatives That Would Reduce or Eliminate the Use, Occupancy, or Disposition of Public Lands Needed for Subsistence Purposes

All action alternatives proposed in the EIS would use public lands jointly managed by the USCG and the USFWS's Alaska Maritime National Wildlife Refuge. This alternative would remove 14.3 acres of public lands used for subsistence purposes. Of all the RSA alternatives presented in the EIS, only Runway 07/25 RSA Alternative 1 (No Action) and Runway 18/36 RSA Alternative 1 (No Action) would use no public lands used for subsistence purposes. Runway 07/25 RSA Alternative 3 and Runway 18/36 RSA Alternative 5 would use the highest amount of public lands needed for subsistence purposes.

Findings

Runway 18/36 RSA Alternative 2 may significantly restrict subsistence resources and uses on public lands. Significant effects to subsistence resources primarily result from placement of fill onto freshwater-influenced marine habitat.

Loss of habitat would lead to increased mortality of salmon smolts and, subsequently, returning adult salmonids, ultimately having effects on abundance and availability of this subsistence resource. Subsistence users are likely to notice a long-term measurable decline in salmonid abundance and availability, and per capita harvests of salmonids are likely to decrease, resulting in a significant impact on abundance and availability of subsistence resources and use of those resources.

While some individuals would have to relocate to similar harvesting locations due to placement of fill at their current subsistence harvesting locations, this alternative would not result in substantial interference in harvestable access or major increases in competition.

The FAA makes the following findings for Runway 18/36 RSA Alternative 2:

(A) Any significant restriction of subsistence uses that would result from Runway 18/36 RSA Alternative 2 would not be necessary or consistent with sound management principles for the utilization of the public lands. Runway 18/36 RSA Alternative 7 would meet the runway safety needs of the Kodiak Airport without a significant restriction of subsistence uses.

(B) Runway 18/36 Alternative 2 would not use the least amount of public lands necessary to meet the need for improved runway safety areas. Runway 18/36 RSA Alternative 6 would use a smaller amount of public lands and still meet the runway safety needs of the Kodiak Airport. However, Runway 18/36 RSA Alternative 6 may cause a significant restriction to subsistence resources and uses. Runway 18/36 Alternative 7 would use more public lands, but would not cause a significant restriction of subsistence uses.

(C) Reasonable steps would be taken to minimize adverse effects upon subsistence uses and resources resulting from Runway 18/36 Alternative 2. To minimize adverse impacts during construction, fill placement would only occur during periods when subsistence harvest is low and there would be minimal impact to migrating salmon. Additional construction and design measures are presented in Section 4.22 and Chapter 6 of the Final EIS.

Evaluation and Findings for Runway 18/36 RSA Alternative 3

Runway 18/36 RSA Alternative 3 would extend the RSA by 450 feet on Runway end 18 and by 240 feet for Runway 36. A 70-knot EMAS would be installed on the newly created landmass on Runway end 18.

Evaluation of the Alternative's Effect of Use, Occupancy, or Disposition on Subsistence Resources and Uses

Runway 18/36 Alternative 3 would result in the direct loss of 4.5 acres of freshwater-influenced subtidal and intertidal marine habitat and 8.3 acres of overall marine habitat. The loss of marine habitat represents approximately 2.6 percent of the 316 acres of marine habitat used for subsistence harvest within the Project Area. Additional impacts to aquatic habitat from Runway 18/36 Alternatives are shown in Table 4.5-2 of the EIS.

Construction Completion Year (2015): The impacts to subsistence resources under Runway 18/36 Alternative 3 would be similar to those described under Runway 18/36 Alternative 2 for all Runway 18/36 action alternatives. It would have a relatively higher impact than Alternative 2 on subsistence uses near the mouth of the Buskin River due to the longer landfill expansion toward the Buskin.

Future Year (2025): Future impacts would be similar to Alternative 2, with the differences noted below. The primary difference between Runway 18/36 Alternatives 2 and 3 is the amount of fill placed on the barrier bar and the resulting loss of soft-bottom habitat and increase in rocky habitat. The difference in loss of soft-bottom habitat between Runway 18/36 Alternatives 2 and 3 is important, because Alternative 3 would eliminate a larger area of rearing habitat for pink salmon, chum salmon, and Dolly Varden than under Runway 18/36 Alternative 2. This alternative would result in a significant loss of shallow, sand-bottom habitat for juvenile salmonids and Dolly Varden at the Buskin River mouth. (See EIS Table 4.5-17 in Section 4.5, Fish and Invertebrates.)

Therefore, loss of this habitat type, paired with the impacts described under Alternative 2 for all Runway 18/36 action alternatives, would create a significant impact on abundance and availability of subsistence resources and use of those resources.

Evaluation of the Availability of Other Lands for Airport Improvements

Runway 18/36 RSA Alternative 3 would use public lands jointly managed by the USCG and the USFWS's Alaska Maritime National Wildlife Refuge. The RSAs are tied specifically to the Airport runways. The only way to meet FAA RSA standards to the extent practicable and not use public lands would be to move the Airport to another location on the island. Relocating the Airport to another location does not meet the purpose and need of the project.

Evaluation of Other Alternatives That Would Reduce or Eliminate the Use, Occupancy, or Disposition of Public Lands Needed for Subsistence Purposes

All action alternatives proposed in the EIS would use public lands jointly managed by the USCG and the USFWS's Alaska Maritime National Wildlife Refuge. This alternative would remove 11.7 acres of public lands used for subsistence purposes. Of all the RSA alternatives presented in the EIS, only Runway 07/25 RSA Alternative 1 (No Action) and Runway 18/36 RSA Alternative 1 (No Action) would use no public lands used for subsistence purposes. Runway 07/25 RSA Alternative 3 and Runway 18/36 RSA Alternative 5 would use the highest amount of public lands needed for subsistence purposes.

Findings

Runway 18/36 RSA Alternative 3 may significantly restrict subsistence resources and uses on public lands. Significant effects to subsistence resources primarily result from placement of fill onto freshwater-influenced marine habitat. Loss of habitat would lead to increased mortality of salmon smolts and, subsequently, returning adult salmonids, ultimately having effects on abundance and availability of this subsistence resource. Subsistence users are likely to notice a long-term measurable decline in salmonid abundance and availability, and per capita harvests of salmonids are likely to decrease, resulting in a significant impact on abundance and availability of subsistence resources and use of those resources.

While some individuals would have to relocate to similar harvesting locations due to placement of fill at their current subsistence harvesting locations, this alternative would not result in substantial interference in harvestable access or major increases in competition.

The FAA makes the following findings for Runway 18/36 RSA Alternative 3:

(A) Any significant restriction of subsistence uses that would result from Runway 18/36 RSA Alternative 3 would not be necessary or consistent with sound management principles for the utilization of the public lands. Runway 18/36 RSA Alternative 7 would meet the runway safety needs of the Kodiak Airport without a significant restriction of subsistence uses.

(B) Runway 18/36 Alternative 3 would not use the least amount of public lands necessary to meet the need for improved runway safety areas. Runway 18/36 RSA Alternative 6 would use a smaller amount of public lands and still meet the runway safety needs of the Kodiak Airport. However, Runway 18/36 RSA Alternative 6 may cause a significant restriction to subsistence resources and uses. Runway 18/36 Alternative 7 would use more public lands, but would not cause a significant restriction of subsistence uses.

(C) Reasonable steps would be taken to minimize adverse effects upon subsistence uses and resources resulting from Runway 18/36 Alternative 3. To minimize adverse impacts during construction, fill placement would only occur during periods when subsistence harvest is low and there would be minimal impact to migrating salmon. Additional construction and design measures are presented in Section 4.22 and Chapter 6 of the Final EIS.

Evaluation and Findings for Runway 18/36 RSA Alternative 4

Runway 18/36 RSA Alternative 4 would extend both RSAs by 300 feet and install a 40-knot EMAS on both ends.

Evaluation of the Alternative's Effect of Use, Occupancy, or Disposition on Subsistence Resources and Uses

Runway 18/36 Alternative 4 would result in the direct loss of 2.8 acres of freshwater-influenced subtidal and intertidal marine habitat and 7.4 acres of overall marine habitat. The lost marine habitat represents approximately 2.3 percent of the 316 acres of marine habitat used for subsistence harvest within the Project Area. Additional impacts to aquatic habitat from Runway 18/36 Alternatives are shown in Table 4.5-2 of the EIS.

Construction Completion Year (2015): The impacts to subsistence resources under Runway 18/36 Alternative 4 would be similar to those under Runway 18/36 Alternative 2.

Future Year (2025): Effects to existing subsistence species and habitats, as well as access to and competition for subsistence resources off Runway end 18 are similar to those described under Alternative 2 for all Runway 18/36 action alternatives.

The primary difference between Runway 18/36 Alternatives 2 and 4 is the amount of fill placed on the barrier bar and the resulting loss of soft-bottom habitat and increase in rocky habitat. The difference in loss of soft-bottom habitat between Runway 18/36 Alternatives 2 and 4 is important, as Alternative 4 would eliminate a larger area of rearing habitat for pink salmon, chum salmon, and Dolly Varden than under Runway 18/36 Alternative 2. This alternative would result in a significant loss of shallow, sand-bottom habitat for juvenile salmonids and Dolly Varden at the Buskin River mouth. This impact, along with effects described under Alternative 2 for all Runway 18/36 action alternatives, would result in a significant impact on abundance and availability of subsistence resources and use of those resources.

Evaluation of the Availability of Other Lands for Airport Improvements

Runway 18/36 RSA Alternative 4 would use public lands jointly managed by the USCG and the USFWS's Alaska Maritime National Wildlife Refuge. The RSAs are tied specifically to the Airport runways. The only way to meet FAA RSA standards to the extent practicable and not use public lands would be to move the Airport to another location on the island. Relocating the Airport to another location does not meet the purpose and need of the project.

Evaluation of Other Alternatives That Would Reduce or Eliminate the Use, Occupancy, or Disposition of Public Lands Needed for Subsistence Purposes

All action alternatives proposed in the EIS would use public lands jointly managed by the USCG and the USFWS's Alaska Maritime National Wildlife Refuge. This alternative would remove 10.5 acres of public lands used for subsistence purposes. Of all the RSA alternatives presented in the EIS, only Runway 07/25 RSA Alternative 1 (No Action) and Runway 18/36 RSA Alternative 1 (No Action) would use no public lands used for subsistence purposes. Runway 07/25 RSA Alternative 3 and Runway 18/36 RSA Alternative 5 would use the highest amount of public lands needed for subsistence purposes.

Findings

Runway 18/36 RSA Alternative 4 may significantly restrict subsistence resources and uses on public lands. Significant effects to subsistence resources primarily result from placement of fill onto freshwater-influenced marine habitat. Loss of habitat would lead to increased mortality of salmon smolts and, subsequently, returning adult salmonids, ultimately having effects on abundance and availability of this subsistence resource. Subsistence users are likely to notice a long-term measurable decline in salmonid abundance and availability, and per capita harvests of salmonids are likely to decrease, resulting in a significant impact on abundance and availability of subsistence resources and use of those resources.

While some individuals would have to relocate to similar harvesting locations due to placement of fill at their current subsistence harvesting locations, this alternative would not result in substantial interference in harvestable access or major increases in competition.

The FAA asserts the following findings for Runway 18/36 RSA Alternative 4:

(A) Any significant restriction of subsistence uses that would result from Runway 18/36 RSA Alternative 4 would not be necessary or consistent with sound management principles for the utilization of the public lands. Runway 18/36 RSA Alternative 7 would meet the runway safety needs of the Kodiak Airport without a significant restriction of subsistence uses.

(B) Runway 18/36 Alternative 4 would not use the least amount of public lands necessary to meet the need for improved runway safety areas. Runway 18/36 RSA Alternative 6 would use a smaller amount of public lands and still meet the runway safety needs of the Kodiak Airport. However, Runway 18/36 RSA Alternative 6 may cause a significant restriction to subsistence resources and uses. Runway 18/36 Alternative 7 would use more public lands, but would not cause a significant restriction of subsistence uses.

(C) Reasonable steps would be taken to minimize adverse effects upon subsistence uses and resources resulting from Runway 18/36 Alternative 4. To minimize adverse impacts during construction, fill placement would only occur during periods when subsistence harvest is low and there would be minimal impact to migrating salmon. Additional construction and design measures are presented in Section 4.22 and Chapter 6 of the Final EIS.

Evaluation and Findings for Runway 18/36 RSA Alternative 5

Runway 18/36 RSA Alternative 5 of the EIS would extend both runway ends by 600 feet.

Evaluation of the Alternative's Effect of Use, Occupancy, or Disposition on Subsistence Resources and Uses

Runway 18/36 Alternative 5 would result in the direct loss of 6.2 acres of freshwater-influenced subtidal and intertidal marine habitat and 15.2 acres of overall marine habitat. The loss of marine habitat represents approximately 4.8 percent of the 316 acres of marine habitat used for subsistence harvest within the Project Area. Additional impacts to aquatic habitat from Runway 18/36 Alternatives are shown in Table 4.5-2 of the EIS.

Construction Completion Year (2015): The impacts to subsistence resources under Runway 18/36 Alternative 5 would be similar to those under Runway 18/36 Alternative 2.

Future Year (2025): The greatest long-term impact to subsistence resources under this alternative would be from loss of habitat for marine and terrestrial resources, particularly marine invertebrates, terrestrial vegetation, and fishes. Effects to existing subsistence species and habitats, as well as access to and competition for subsistence resources off Runway end 18, are similar to those described under Alternative 2 for all Runway 18/36 action alternatives.

The primary difference between Runway 18/36 Alternatives 2 and 5 is the amount of fill placed on the barrier bar and the resulting loss of soft-bottom habitat and increase in rocky habitat. The difference in loss of soft-bottom habitat between Runway 18/36 Alternatives 2 and 5 is important, as Alternative 5 would eliminate a larger area of rearing habitat for pink salmon, chum salmon, and Dolly Varden than would Runway 18/36 Alternative 2. This alternative would result in a significant loss of shallow, sand-bottom habitat for juvenile salmonids and Dolly Varden at the Buskin River mouth. (See EIS Table 4.5-17 in Section 4.5, Fish and Invertebrates.)

Alternative 5 represents the largest fill footprint and therefore would represent the largest potential impacts on subsistence resources relative to the other alternatives. Based on the reasons outlined under Alternative 2 in discussing all action alternatives, this alternative would result in significant impacts on abundance and availability of subsistence resources and use of those resources.

Evaluation of the Availability of Other Lands for Airport Improvements

Runway 18/36 RSA Alternative 5 would use public lands jointly managed by the USCG and the USFWS's Alaska Maritime National Wildlife Refuge. The RSAs are tied specifically to the Airport runways. The only way to meet FAA RSA standards to the extent practicable and not use public lands would be to move the Airport to another location on the island. Relocating the Airport to another location does not meet the purpose and need of the project.

Evaluation of Other Alternatives That Would Reduce or Eliminate the Use, Occupancy, or Disposition of Public Lands Needed for Subsistence Purposes

All action alternatives proposed in the EIS would use public lands jointly managed by the USCG and the USFWS's Alaska Maritime National Wildlife Refuge. This alternative would remove 19.1 acres of public lands used for subsistence purposes.

Of all the RSA alternatives presented in the EIS, only Runway 07/25 RSA Alternative 1 (No Action) and Runway 18/36 RSA Alternative 1 (No Action) would use no public lands used for subsistence purposes. Runway 07/25 RSA Alternative 3 and Runway 18/36 RSA Alternative 5 would use the highest amount of public lands needed for subsistence purposes.

Findings

Runway 18/36 RSA Alternative 5 may significantly restrict subsistence resources and uses on public lands. Significant effects to subsistence resources primarily result from placement of fill onto freshwater-influenced marine habitat. Loss of habitat would lead to increased mortality of salmon smolts and, subsequently, returning adult salmonids, ultimately having effects on abundance and availability of this subsistence resource. Subsistence users are likely to notice a long-term measurable decline in salmonid abundance and availability, and per capita harvests of salmonids are likely to decrease, resulting in a significant impact on abundance and availability of subsistence resources and use of those resources.

While some individuals would have to relocate to similar harvesting locations due to placement of fill at their current subsistence harvesting locations, this alternative would not result in substantial interference in harvestable access or major increases in competition.

The FAA makes the following findings for Runway 18/36 RSA Alternative 5:

(A) Any significant restriction of subsistence uses that would result from Runway 18/36 RSA Alternative 5 would not be necessary or consistent with sound management principles for the utilization of the public lands. Runway 18/36 RSA Alternative 7 would meet the runway safety needs of the Kodiak Airport without a significant restriction of subsistence uses.

(B) Runway 18/36 Alternative 5 would not use the least amount of public lands necessary to meet the need for improved runway safety areas. Runway 18/36 RSA Alternative 6 would use a smaller amount of public lands and still meet the runway safety needs of the Kodiak Airport. However, Runway 18/36 RSA Alternative 6 may cause a significant restriction to subsistence resources and uses. Runway 18/36 Alternative 7 would use more public lands, but would not cause a significant restriction of subsistence uses.

(C) Reasonable steps would be taken to minimize adverse effects upon subsistence uses and resources resulting from Runway 18/36 Alternative 5. To minimize adverse impacts during construction, fill placement would only occur during periods when subsistence harvest is low and there would be minimal impact to migrating salmon. Additional construction and design measures are presented in Section 4.22 and Chapter 6 of the Final EIS.

Evaluation and Findings for Runway 18/36 RSA Alternative 6

Runway 18/36 RSA Alternative 3 would extend the RSA by 240 feet on Runway end 18 and by 400 feet for Runway 36. A 70-knot EMAS would be installed on the newly created landmass on Runway end 18.

Evaluation of the Alternative's Effect of Use, Occupancy, or Disposition on Subsistence Resources and Uses

Runway 18/36 Alternative 6 would result in the direct loss of 2.2 acres of freshwater-influenced subtidal and intertidal marine habitat and 8.2 acres of overall marine habitat. The loss of marine habitat represents approximately 2.6 percent of the 316 acres of marine habitat used for subsistence harvest within the Project Area. Additional impacts to aquatic habitat from Runway 18/36 Alternatives are shown in Table 4.5-2 of the EIS.

Construction Completion Year (2015): The impacts to subsistence resources under Runway 18/36 Alternative 6 would be similar to those under Runway 18/36 Alternative 2.

Future Year (2025): The greatest long-term impact to subsistence resources under this alternative would be through loss of habitat for marine and terrestrial resources, particularly marine invertebrates, terrestrial vegetation, and fishes. Effects to existing subsistence species and habitats, as well as access to and competition for subsistence resources off Runway ends 18 and 36 are similar to those described under Alternative 2 for all Runway 18/36 action alternatives.

Both Runway 18/36 Alternatives 2 and 6 would involve placement of the same amount of fill on the barrier bar and have the same resulting loss of soft-bottom habitat and increase in rocky habitat. The loss of both important habitat and critical food sources would have an adverse effect on all juvenile salmonids and, subsequently, on returning adult populations. This effect would include a noticeable reduction in per capita harvest of these resources, and result in a significant impact on abundance and availability of subsistence resources and use of those resources.

Evaluation of the Availability of Other Lands for Airport Improvements

Runway 18/36 RSA Alternative 6 would use public lands jointly managed by the USCG and the USFWS's Alaska Maritime National Wildlife Refuge. The RSAs are tied specifically to the Airport runways. The only way to meet FAA RSA standards to the extent practicable and not use public lands would be to move the Airport to another location on the island. Relocating the Airport to another location does not meet the purpose and need of the project.

Evaluation of Other Alternatives That Would Reduce or Eliminate the Use, Occupancy, or Disposition of Public Lands Needed for Subsistence Purposes

All action alternatives proposed in the EIS would use public lands jointly managed by the USCG and the USFWS's Alaska Maritime National Wildlife Refuge. This alternative would remove 11.3 acres of public lands used for subsistence purposes. Of all the RSA alternatives presented in the EIS, only Runway 07/25 RSA Alternative 1 (No Action) and Runway 18/36 RSA Alternative 1 (No Action) would use no public lands used for subsistence purposes. Runway 07/25 RSA Alternative 3 and Runway 18/36 RSA Alternative 5 would use the highest amount of public lands needed for subsistence purposes.

Findings

Runway 18/36 RSA Alternative 6 may significantly restrict subsistence resources and uses on public lands. Significant effects to subsistence resources primarily result from placement of fill onto freshwater-influenced marine habitat.

Loss of habitat would lead to increased mortality of salmon smolts and, subsequently, returning adult salmonids, ultimately having effects on abundance and availability of this subsistence resource. Subsistence users are likely to notice a long-term measurable decline in salmonid abundance and availability, and per capita harvests of salmonids are likely to decrease, resulting in a significant impact on abundance and availability of subsistence resources and use of those resources.

While some individuals would have to relocate to similar harvesting locations due to placement of fill at their current subsistence harvesting locations, this alternative would not result in substantial interference in harvestable access or major increases in competition.

The FAA makes the following findings for Runway 18/36 RSA Alternative 6:

(A) Any significant restriction of subsistence uses that would result from Runway 18/36 RSA Alternative 6 would not be necessary or consistent with sound management principles for the utilization of the public lands. Runway 18/36 RSA Alternative 7 would meet the runway safety needs of the Kodiak Airport without a significant restriction of subsistence uses.

(B) Runway 18/36 Alternative 6 would use the least amount of public lands necessary to meet the need for improved runway safety areas. However, Runway 18/36 RSA Alternative 6 may cause a significant restriction to subsistence resources and uses. Runway 18/36 Alternative 7 would use more public lands, but would not cause a significant restriction of subsistence uses.

(C) Reasonable steps would be taken to minimize adverse effects upon subsistence uses and resources resulting from Runway 18/36 Alternative 6. To minimize adverse impacts during construction, fill placement would only occur during periods when subsistence harvest is low and there would be minimal impact to migrating salmon. Additional construction and design measures are presented in Section 4.22 and Chapter 6 of the Final EIS.

Evaluation and Findings for Runway 18/36 RSA Alternative 7

Runway 18/36 RSA Alternative 7 would extend the RSA by 600 feet for Runway 36. The runway would also be shifted south by 240 feet and a 40-knot EMAS would be installed on the existing landmass on Runway end 18.

Evaluation of the Alternative's Effect of Use, Occupancy, or Disposition on Subsistence Resources and Uses

Runway 18/36 Alternative 7 would result in no direct loss of freshwater-influenced subtidal and intertidal marine habitat. However, 9.0 acres of marine habitat would be filled by this alternative. The loss of marine habitat represents approximately 2.8 percent of the 316 acres of marine habitat used for subsistence harvest within the Project Area. Additional impacts to aquatic habitat from Runway 18/36 Alternatives are shown in Table 4.5-2 of the EIS.

Construction Completion Year (2015): The impacts to subsistence resources under Runway 18/36 Alternative 7 would be similar to those described under Alternative 2 for all Runway 18/36 action alternatives, with the exception that the impacts related to fill on Runway end 18 does not apply to this alternative. Competition for subsistence resources would increase during construction on the Runway 36 end, because users would be unable to access locations during placement.

Future Year (2025): While some loss of habitat due to placement of fill would occur under this alternative, unlike Runway 18/36 Alternatives 2 through 6, it is not expected to significantly affect populations of subsistence resources because this alternative avoids the Buskin River area. The area south of the runway is not used as frequently as the Buskin River area for subsistence resource procurement and contains fewer important subsistence resources. There also would be no noticeable reduction in per capita harvest of these resources. Therefore, the effects from this alternative are not expected to result in significant long-term changes to abundance and availability of subsistence resources around the Airport.

Because Runway 18/36 Alternative 7 avoids the Buskin River area, this alternative is not expected to have significant long-term impacts to access to and competition for subsistence resources. This alternative represents the least amount of impact on subsistence resources due to its avoidance of the Buskin River area. Subsistence users would be permanently displaced from the existing Runway 36 end due to placement of fill, thereby reducing the amount of open water available for harvest of fish, marine invertebrates, and waterfowl. Some individual users would be displaced from fishing locations along Runway end 36, which would likely affect competition in other nearby locales. However, few subsistence users use the area off Runway end 36, and this area is not considered as important to subsistence uses as the area near the Buskin River.

Evaluation of the Availability of Other Lands for Airport Improvements

Runway 18/36 RSA Alternative 7 would use public lands jointly managed by the USCG and the USFWS's Alaska Maritime National Wildlife Refuge. The RSAs are tied specifically to the Airport runways. The only way to meet FAA RSA standards to the extent practicable and not use public lands would be to move the Airport to another location on the island. Relocating the Airport to another location does not meet the purpose and need of the project.

Evaluation of Other Alternatives That Would Reduce or Eliminate the Use, Occupancy, or Disposition of Public Lands Needed for Subsistence Purposes

All action alternatives proposed in the EIS would use public lands jointly managed by the USCG and the USFWS's Alaska Maritime National Wildlife Refuge. This alternative would remove 11.1 acres of public lands used for subsistence purposes. Of all the RSA alternatives presented in the EIS, only Runway 07/25 RSA Alternative 1 (No Action) and Runway 18/36 RSA Alternative 1 (No Action) would use no public lands used for subsistence purposes. Runway 07/25 RSA Alternative 3 and Runway 18/36 RSA Alternative 5 would use the highest amount of public lands needed for subsistence purposes.

Findings

Runway 18/36 RSA Alternative 7 would not significantly restrict subsistence resources and uses on public lands. Although some loss of habitat due to placement of fill would occur under this alternative, it is not expected to significantly affect populations of subsistence resources because this alternative avoids freshwater-influenced marine habitat. The area south of the runway is not used as frequently as the Buskin River area for subsistence use procurement and contains fewer important subsistence resources. There also would be no noticeable reduction in per capita harvest of these resources. Therefore, the effects from this alternative are not expected to result in significant long-term changes to abundance and availability of subsistence resources around the Airport.

While some individuals would have to relocate to similar harvesting locations due to placement of fill at their current subsistence harvesting locations, this alternative would not result in substantial interference in harvestable access or major increases in competition.

The FAA makes the following findings for Runway 18/36 RSA Alternative 7:

(A) There would be no significant restriction to subsistence resources or uses as a result of Runway 18/36 RSA Alternative 7 and this alternative is necessary to meet the runway safety needs of the Kodiak Airport.

(B) Runway 18/36 Alternative 7 would not use the least amount of public lands necessary to meet the need for improved runway safety areas. Runway 18/36 RSA Alternative 6 would use a smaller amount of public lands and still meets the runway safety needs of the Kodiak Airport. However, Runway 18/36 RSA Alternative 6 may cause a significant restriction to subsistence resources and uses. Runway 18/36 Alternative 7 would use more public lands, but would not cause a significant restriction of subsistence resources and uses.

(C) To minimize adverse impacts during construction, fill placement would only occur during periods when subsistence harvest is low and there would be minimal impact to migrating salmon. Additional construction and design measures are presented in Section 4.22 and Chapter 6 of the Final EIS.

Evaluation and Findings for Cumulative Effects Analysis

The goal of the cumulative effects analysis is to evaluate the incremental impact of the current action in conjunction with all past, present, and reasonably foreseeable future actions in or near the Project Area, as well as the preferred alternatives presented in the EIS. For the cumulative analysis, Runway 07/25 RSA Alternative 2 and Runway 18/36 RSA Alternative 7 constitute the preferred alternatives. The cumulative analysis considers in detail other activities that are not being evaluated in the EIS and activities identified during scoping as being of concern.

Various projects have been completed or are planned for the Kodiak area that may impact subsistence resources and uses. Only projects with potential direct impacts on the Airport area in terms of land use, noise, or air traffic, and those projects that require consideration for the cumulative effects analysis, are listed in Tables 7 and 8.

TABLE 7. MAJOR PROJECTS COMPLETED IN THE LAST DECADE

Project	Description	Sponsor	Schedule
Infrastructure Projects			
Kodiak Airport	Removal of obstructions: Removal of brush covered ridge and trees adjacent to the Runway 10 threshold.	ADOT&PF	2002
Kodiak Airport	Rehabilitate runway, apron and taxiway; reconstruction of the terminal apron.	ADOT&PF	2004
Kodiak Airport	Phase 1 improvement projects: Construction of Runway 7 elephant ear; navigational aid and lighting maintenance; obstruction lighting on radio towers; repaving of existing parking areas.	ADOT&PF	2004
Kodiak Airport	Obstruction removal: Tree removal upstream of Bridge #2 and other obstruction removal.	ADOT&PF	2007/2008
USCG	USCG fuel pier rehabilitation project.	USCG	2008
Buskin River Recreation Site	Rehabilitate the lower parking lot, including a few barrier rocks placed on the shoreline. Addition of an outhouse.	State Parks	2004
Trident Seaplane Base	Removal of rocks in the aircraft operating areas; construction of a ramp to pull seaplanes out of the water and road access to the ramp; construction of an aircraft parking area and lease lots on land; replacing two floats and repairing the third float; fencing, paving and lighting improvements for the floats and adjacent lease areas/road.	City of Kodiak; FAA	2009
Kodiak Airport	Chemical storage building construction.	ADOT&PF	2010
St. Paul Harbor Rehabilitation	St. Paul Harbor rebuilt as a small boat harbor with approximately 250 slips including service docks and a major vessel grid, accommodating vessels up to 60 feet in length.	Kodiak Borough	2000
Wind Turbines	Develop a wind turbine system (three turbines) on Pillar Mountain. May build three more in the future.	Kodiak Electric Association	2009–2012
Kodiak Airport	Asphalt pavement mill, crack seal, and seal coat: Repair of runways and taxiways.	ADOT&PF	2009
Kodiak Airport	Pavement marking.	ADOT&PF	2009
Kodiak Airport	Runway resurfacing project.	ADOT&PF	2010–2012
Water Treatment Facility	Build new water treatment facility with UV treatment.	City of Kodiak	2009–2010

St. Herman Harbor Loading Facility	Installing dry-dock and boat lifts at St. Herman's harbor.	Kodiak/ DCCED	2010–2011
Mission Road Upgrade	Upgrade and repair of Mission Road.	ADOT&PF	2009–2010
Mayflower Switchbacks Rehabilitation	Rehabilitate Mile 23 to 25 of Rezanof Drive.	ADOT&PF	2011

Source: Barnard Dunkelberg & Company

TABLE 8. CURRENT AND REASONABLY FORESEEABLE PROJECTS

Project	Description	Sponsor	Schedule
Infrastructure Projects			
AMHS Dock/Shoreside Improvements	Rehabilitation of current Pier 1 docking facility.	ADOT&PF	2014
Misc. Water/ Sewer Projects	Various ongoing water and sewer upgrades and extensions.	City of Kodiak	2009–2019
Rezanof Drive Rehabilitation	Rehab Rezanof Drive from USCG Base to town.	ADOT&PF	2010
Rezanof Drive Rehabilitation II	Rehab Rezanof Drive from town to Mill Bay Road.	ADOT&PF	2013
Chiniak Road Paving	Pave 13 miles of Chiniak Road.	ADOT&PF	2011
Chiniak Highway Mp 23.7 Improvements	Realign 0.76 mile of highway; add drainage, paving, and striping.	ADOT&PF	2013–2014
Anton Larsen Bay Road Extension	Rehabilitate and extend the Anton Larson Bay Road.	ADOT&PF	2018
Kodiak Airport Apron Areas	Construct apron at Kodiak Airport.	FAA	2015
Kodiak Airport Taxiway	Construct "Taxiway F" from the aircraft apron to Runway end 07 at Kodiak Airport.	FAA	2015
USCG	Coast Guard fuel pier repair/replacement project.	USCG	2014
USCG	Renovate Hangar 2.	USCG	2014
USCG	Renovate enlisted dining facility.	USCG	2016
USCG	Homeporting of new offshore patrol cutters.	USCG	2020
Trident Basin Improvements	Additional uplands work at Trident Basin seaplane base.	City of Kodiak	2014
Northland Inc. Cargo Facility	Construct a 3.5 acre facility, including 3.1 acres of fill into marine waters of Womens Bay for a cargo loading and off-loading facility.	Northland, Inc.	2015-2016

Source: Kodiak Airport Master Plan

Evaluation of the Effect of Use, Occupancy, or Disposition on Subsistence Resources and Uses

Various projects beyond those being assessed in the EIS have been completed or are planned for the Kodiak area that may impact subsistence resources and uses. Previous projects within Chiniak Bay could have affected subsistence resources in the past, through reduction in unaltered shoreline habitat (See EIS Section 4.5, Fish and Invertebrates). Future projects, such as the potential replacement/rehabilitation of the fuel dock on the USCG Base would affect waters in Chiniak Bay, which would also affect fish habitat within the area. However, this dock project is not expected to affect important habitat, such as freshwater-influenced nearshore habitat. Therefore it would not result in cumulative impacts to the freshwater-influenced habitat that is important for salmonids.

Some projects, such as construction of a UV water treatment plant, may actually improve conditions for subsistence resources and uses by reducing the amount of waste-based pathogens entering Chiniak Bay. Although a few of the projects identified may affect subsistence resources in other locations, such as development of wind turbines on Pillar Mountain, extension of the Anton Larsen Bay road, and improvements in Trident Basin, none of the anticipated impacts from those projects are expected to reach a level of significance by themselves. However, when combined with most of the RSA action alternatives in the EIS, it is anticipated there would be significant impacts to subsistence resources and uses, predominantly from the RSA action alternatives (Runway 07/25 Alternatives 2 and 3 and Runway 18/36 Alternatives 2 through 6) analyzed in the EIS.

Evaluation of the Availability of Other Lands for Airport Improvements

All alternatives presented in the EIS would use public lands jointly managed by the USCG and the USFWS's Alaska Maritime National Wildlife Refuge. The RSAs are tied specifically to the airport runways. The only way to meet FAA RSA standards to the extent practicable and not use public lands would be to move the airport to another location on the island. Relocating the airport to another location does not meet the purpose and need of the project.

Evaluation of Other Alternatives That Would Reduce or Eliminate the Use, Occupancy, or Disposition of Public Lands Needed for Subsistence Purposes

All action alternatives proposed in the EIS would use public lands jointly managed by the USCG and the USFWS's Alaska Maritime National Wildlife Refuge. Of all the RSA alternatives presented in the EIS, only Runway 07/25 RSA Alternative 1 (No Action) and Runway 18/36 RSA Alternative 1 (No Action) would use no public lands used for subsistence purposes. Runway 07/25 RSA Alternative 2 and Runway 18/36 RSA Alternative 3 would use the highest amount of public lands needed for subsistence purposes.

Findings

The combined effects of all past, present, and future actions (see Tables 7 and 8 above) with the RSA action alternatives (Runway 07/25 RSA Alternatives 2 and 3 and Runway 18/36 RSA Alternatives 2 through 7) evaluated in the EIS may result in significant adverse impacts to subsistence resources around the Airport. The combined effect of all past, present, and future actions (excluding the proposed RSA alternatives, see projects listed in Tables 7 and 8 above) does not produce impacts to subsistence that are expected to result in large reductions in abundance or harvest. However, when those projects are combined with many of the RSA action alternatives (Runway 07/25 RSA Alternatives 2 and 3 and Runway 18/36 RSA Alternatives 2 through 6), the impact to subsistence resources or availability of subsistence resources for harvest is high enough to be significant (large reductions in abundance or major redistribution/availability of subsistence resources). The only RSA action alternative that would not have significant impacts to abundance and availability of subsistence resources is Runway 18/36 RSA Alternative 7.

Some individuals would have to relocate their harvesting efforts for impacted subsistence resources to other locations due to placement of fill related to RSA improvements at current subsistence harvesting locations.

However, the cumulative projects listed above would not result in substantial interference in harvestable access or major increases in competition for those resources. The amount of impact under the cumulative scenario is not great enough to substantially interfere with harvestable access to active subsistence-use sites, or cause major increases in non-rural resident use. Therefore, the cumulative effects of past, present, and reasonably foreseeable actions would not significantly restrict access to or increase competition for subsistence resources.

The FAA asserts the following findings for cumulative effects:

(A) Any significant restriction of subsistence uses that would result from past, present, and reasonably foreseeable future projects combined with the FAA preferred alternatives (Runway 07/25 Alternative 2 and Runway 18/36 Alternative 7) would be necessary to meet the runway safety needs of the Kodiak Airport and consistent with sound management principles for the utilization of the public lands.

(B) The preferred alternatives would not use the least amount of public lands necessary to meet the need for improved runway safety areas. A combination of Runway 07/25 Alternative 2 and Runway 18/36 RSA Alternative 6 would use a smaller amount of public lands and still meets the runway safety needs of the Kodiak Airport. However, both Runway 07/25 Alternative 2 and Runway 18/36 RSA Alternative 6 may cause a significant restriction to subsistence resources and uses. Runway 18/36 Alternative 7 would use more public lands, but would not cause a significant restriction of subsistence resources and uses.

(C) Reasonable steps would be taken to minimize adverse effects upon subsistence uses and resources resulting from the preferred alternatives. To minimize adverse impacts during construction, fill placement would only occur during periods when subsistence harvest is low and there would be minimal impact to migrating salmon. Additional construction and design measures are presented in Section 4.22 and Chapter 6 of the Final EIS.

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APPENDIX 12

RESPONSE TO COMMENTS RECEIVED ON THE ANILCA SUBSISTENCE EVALUATION AND TITLE XI APPLICATION

Introduction

This appendix includes all substantive comments received by the FAA during the Alaska National Interest Lands Conservation Act (ANILCA) Title XI and Subsistence Evaluation comment period. A response to each substantive comment is also included in this appendix. Additionally, where appropriate and as noted in the individual responses, the EIS document and subsistence evaluation have been updated to address specific comments.

Organization

Comments were received via letter, email, and during the public hearing testimony. Agency, tribe, and stakeholder comment letters have individual comments noted by a black line in the left hand page margin running the length of the comment. Each comment has been coded with a unique identifier to correspond with the comment response following each comment letter. The comment response includes a copy of the individual comment text and provides the FAA's response.

The following agencies, tribes, and individuals submitted comments to the FAA on the Subsistence Evaluation and Title XI Application during the comment period.

Organization	Date
The State of Alaska	April 1, 2013
Sun'aq Tribe of Kodiak	March 13, 2013
Patrick Holmes	April 10, 2013

Public Hearing Testimony Comments

A transcript of the public hearing testimony is provided with each comment noted by a black line in the left hand page margin running the length of the comment. The following individuals provided oral comments to the FAA during the ANILCA Public hearing conducted March 21, 2013. The affiliation of the individual is listed if it was provided during the testimony.

Name	Affiliation
Iver Malutin	
Patrick Holmes	
Paul Chervenak	Fish & Game Advisory Committee
Rick Rowland	Sun'aq Tribe of Kodiak

Response to The State of Alaska
Susan Magee, ANILCA Program Coordinator
April 1, 2013

Comment A_SOA 1

The State of Alaska reviewed the ANILCA Section 810 Evaluation (Evaluation) for the Kodiak Airport Improvements Environmental Impact Statement (EIS). The following comments are provided to assist the FAA in developing the final Section 810(a)(3) determination and represent the consolidated views of the State's resource agencies.

The current Evaluation appears to partially fulfill the Section 810 process described in ANILCA Sections 810(a)(1-3) and 810(b). The FAA determined that all alternatives except Runway 18/36 Alternative 7 may significantly restrict subsistence uses. For illustrative purposes, the following excerpts and discussion focus on Runway 07/25 Alternative 2, which is identified in the DEIS as one of two runway preferred alternatives:

• Runway 07/25 RSA Alternative 2 *may significantly restrict abundance and availability of subsistence resources* for harvest on public lands. Significant effects to subsistence resources primarily result from placement of fill onto freshwater-influenced marine habitat. Over the long term, this may result in reductions in abundance and availability of salmon for harvest. (p. 26, emphasis added)

• However, when combined with many of the RSA action alternatives (Runway 07/25 RSA Alternatives 2 and 3 and Runway 18/36 RSA Alternatives 2 through 6*), the impact to subsistence resources or availability of subsistence resources for harvest is high enough to trigger the significance threshold* under the Kunaknana decision (large reductions in abundance or major redistribution/availability of subsistence resources). (p. 41,emphasis added)

We anticipate that after considering public comments and hearing testimony, the final EIS will include a Section 810(a)(3) determination, which addresses the following: such a significant restriction of subsistence uses is necessary, consistent with sound management principles for the utilization of public lands, the proposed activity will involve the minimal amount of public lands necessary to accomplish the purposes of such use, occupancy, or other disposition, and reasonable steps will be taken to minimize adverse impacts upon subsistence uses and resources resulting from such actions.

Response A_SOA 1

Thank you for your comment. The draft Subsistence Evaluation Appendix is intended to gather public comments on the analysis of project effects on subsistence uses and resources on federal public lands. The Subsistence Evaluation Appendix in the Final Environmental Impact Statement (FEIS) contains the three required findings as required under the Alaska National Interest Lands Conservation Act (ANILCA) Section 810 (a)(3).

Comment A_SOA 2

FAA's finding that the project may significantly restrict subsistence use is based on the potential for "a long-term measurable decline in salmonid abundance and availability" (p. 26). We note that local projects intended to mitigate the proposed runway expansions' effects to salmon resources could be considered reasonable steps "to minimize adverse impacts upon subsistence uses and resources resulting from such actions" under Section 810(a)(3)(C). While mitigation is not required under ANILCA, compensatory mitigation will be required to meet Clean Water Act Section 404 requirements. Therefore, we encourage FAA to consider the value local compensatory mitigation projects may have in simultaneously meeting the requirements of Section 810(a)(3)(C). Since the duration of project impacts is unforeseeable, long-term or permanent mitigation should be considered along with short-term mitigation.

Currently, the proposed mitigation method is In-Lieu Fee Mitigation, which would not necessarily be used for projects in the Kodiak area. Mitigation applied outside the local area would not help FAA meet Section 810(a)(3)(C). We recommend that Permittee-Responsible Mitigation be considered as the primary compensatory mitigation method because it provides the opportunity for local mitigation to benefit salmon resources. Permittee-Responsible Mitigation may be used to replace culverts owned by the Alaska Department of Transportation and Public Facilities (ADOT&PF) in the landscape area that currently do not provide fish passage. The culverts would be replaced with structures that are approved by the Alaska Department of Fish and Game (ADF&G) and would be designed and installed to provide unrestricted fish passage. ADF&G culvert surveys that have been conducted within the right-of-way of ADOT&PF roads located in the landscape area have identified six culverts on the Saltery Cove Road, four culverts on the Chiniak Highway and one culvert on the Anton Larson Bay Road that currently do not meet fish passage criteria.

We recommend considering land acquisitions to provide additional access along Chiniak Bay or the Kodiak road system to fish resources. We also recommend that mitigation be directed toward projects that will be administered by ADF&G, including: An enhancement project in the landscape area to maintain sockeye salmon production; operate adult salmon enumeration weir in the Buskin River for ten years (2 sockeye salmon life cycles) to evaluate short term and long term effects to the river's salmon runs; conduct a five-year migratory study on sockeye salmon smolt outmigrating from the Buskin River to the ocean by inserting a miniature transmitter into sockeye salmon smolt at the Buskin Lake outlet. Smolt collected at the lake outlet will be tracked traveling down the Buskin River and out into the saltwater to monitor their migration route in the project area. If the feasibility study is successful, tag smolt for five years before, during and after the safety improvements are made.

Response A_SOA 2

Thank you for your comment. Chapter 6 of the Final Environmental Impact Statement (FEIS) describes the proposed mitigation plan for this project. That chapter addresses specific mitigation options, including those suggested by the commenter.

As explained in that chapter, compensatory mitigation would be provided through an in-lieu fee (ILF) payment at a 5.5:1 ratio, and an additional payment would be made to ADF&G for its subsistence management program on the Buskin River (to be used either to continue the current adult escapement monitoring program or to develop a smolt enumeration study). Permittee-responsible mitigation would not be used. For more information, please see Chapter 6 of the FEIS.

Comment A_SOA 3

The Evaluation states, "…given the amount of open water available within Chiniak Bay for harvest, this alternative is not expected to have significant short and long term impacts on subsistence users' ability of access subsistence resources or significantly change the level of competition for subsistence resources" (p. 25). However, Section 4.11-10 of the Draft Environmental Impact Statement states, "The Buskin River sockeye fishery occurs in the nearshore marine waters adjacent to the river mouth." Because the primary subsistence harvest of fish is sockeye salmon and the majority of harvest by boat is conducted adjacent to the Buskin River mouth, the statement regarding available open water in Chiniak Bay is questionable. Increased competition for sockeye harvest by subsistence users in the vicinity of the Buskin River mouth may have significant short and long term impacts on subsistence uses.

Response A_SOA 3

Thank you for your comment. The Final Environmental Impact Statement (FEIS) Section 4.11, Subsistence Resources, and the Subsistence Evaluation Appendix note that some subsistence users would be displaced from preferred fishing locations as a result of placement of fill beyond Runway end 25. However, subsistence users would still be able to access areas open to fishing under both the state and federal regulations. The FEIS and the Subsistence Evaluation Appendix acknowledge that there would be increased competition for preferred subsistence fishing spots, but the increase in competition is not expected to be significant across the population. The standard for significant competition effects occur if the proposed actions increase non-rural use. The proposed project is not expected to increase non-rural use in the area.

Comment A_SOA 4

While the current Evaluation provides detailed, separate analyses of effects to abundance, availability, access interference, and competition for each alternative, it lacks a concise statement of the overall determination for each alternative and for the project as a whole in regards to whether the proposed action significantly restricts subsistence uses. The inclusion of three or four separate determinations under each "Findings" heading confuses the reader as to FAA's overall finding for each alternative and for the cumulative case. We recommend the Evaluation in final EIS plainly state the findings required by Section 810.

Response A_SOA 4
Thank you for your comment. The final Subsistence Evaluation Appendix has been revised to provide an overall determination for each alternative.

Comment A_SOA 5
We do not dispute FAA's findings, nor do we argue that FAA's definition of "significant restriction of subsistence uses" has resulted in a different finding than we would expect under other definitions. However, in terms of precedent, we are concerned by FAA's development of a unique definition of terms related to "significant restriction of subsistence uses" and the lack of explanation for the definition's criteria. The FAA definition is as follows:

This description (from Kunaknana v. Clark) of significant restrictions is used as the baseline for establishing impact evaluation criteria and significance thresholds for the EIS. The Kunaknana v. Watt [sic] opinion does not provide a definition or interpretation of what constitutes a "large reduction," "major redistribution," "substantial interference," or "major increase." For the purpose of the EIS and this evaluation, and taking into consideration the nature of subsistence use and local environmental conditions in the Kodiak area, the FAA has defined these terms as follows:

- Large reductions in abundance: Noticeable and recognizable declines in subsistence resource populations in a given area and reduced subsistence resource harvests as a result of project actions. This includes reduced per capita harvest of subsistence resources.
- Major reductions in availability (i.e., redistribution of resources): Noticeable and recognizable declines in subsistence resource distributions across the landscape and reduced subsistence resource harvests as a result of project actions. This includes reduced per capita harvest of subsistence resources
- Substantial interference with harvestable access: Loss of access to active subsistence harvesting locations that would cause 25 percent or more of local subsistence users to find alternate harvesting locations. (p. 4)

FAA cites the Alaska Land Use Council's definition and then also references the U.S. District Court Decision of Record in Kunaknana v. Watt as the foundation for the FAA definition. For clarity, we note that the case referred to by FAA as Kunaknana v. Watt is actually Kunaknana v. Clark No. A83-337 Civil; the plaintiff's name changed before the final judgment.

In Kunaknana, the court did not clarify or provide a definition for "significant restriction of subsistence uses." Rather, the court upheld the Bureau of Land Management's (BLM) definition as reasonable in terms of the statute and BLM's application of the definition to the Kunaknana case.

Also, we note that FAA's block quotation of the Kunaknana definition on pages 2 and 4 of the Evaluation is not a direct quote from the court decision, but a paraphrase of the court decision's summary of the BLM definition. The BLM definition has been upheld in court decisions over the past thirty years, whereas the FAA has not explained the rationale behind its new criteria. For example, the FAA criteria include, "Noticeable and recognizable declines in subsistence resource populations in a given area and reduced subsistence resource harvests as a result of the project actions," but does not define "given area." Similarly, in the absence of justification, 25 percent appears to be an arbitrary limit for defining substantial interference with harvestable access. For these reasons, in the final Evaluation we recommend replacing the Kunaknana block quotation and FAA's definition with the vetted BLM definition:

To determine if a significant restriction of subsistence uses and needs may result from any one of the alternatives, including their cumulative effects, the following three factors in particular are considered:

- The reduction in the availability of subsistence resources caused by a decline in the population or amount of harvestable resources.
- Reductions in the availability of resources used for subsistence purposes caused by alteration of their normal locations and distribution patterns; and
- Limitations on access to subsistence resources, including from increased competition for the resources.

A significant restriction to subsistence may occur in at least two instances: 1) when an action substantially reduces populations or their availability to subsistence users, and 2) when an action substantially limits access by subsistence users to resources.

Response A_SOA 5

Thank you for your comment. The Final Environmental Impact Statement (FEIS) and the Subsistence Evaluation Appendix have been updated to more accurately reference the court decisions in *Kunaknana v. Clark*. The criteria for a significant restriction on subsistence use in the FEIS are consistent with those decisions. As noted in the FEIS (and the DEIS), the court decisions do not define what constitutes a "large reduction in abundance," a "major redistribution" of resources, "substantial interference" with access," or a "major increase" in non-rural use. The additional text defining these terms in the FEIS and Subsistence Evaluation Appendix is intended to explain how the FAA is interpreting these terms for the purposes of this project. The revisions specify the differences between large reductions in abundance, major redistribution of resources, substantial interference with access or major increases in non-rural use. Additionally, the use of a 25% threshold when referring to loss of access to active harvesting locations has been removed. The Subsistence Evaluation Appendix has been revised to state that access impacts are significant when local subsistence users' access to active subsistence harvesting locations becomes so inconvenient that a substantial portion of the users shift to alternate locations.

Comment A_SOA 6
Page 41, Evaluation and Findings for Cumulative Effects Analysis, Findings. The second and third sentences of this important finding appear contradictory: The combined effect of all past, present, and future actions *does not produce impacts to subsistence that are expected to result in large reductions in abundance or harvest*. (Emphasis added). However, when combined with many of the RSA action alternatives (Runway 07/25 RSA Alternatives 2 and 3 and Runway 18/36 RSA Alternatives 2 through 6), the impact to subsistence resources or availability of subsistence resources for harvest *is high enough to trigger the significance threshold under the Kunaknana decision (large reductions in abundance or major redistribution/availability* of subsistence resources). (Emphasis added)

Response A_SOA 6
Thank you for your comment. Cumulative impacts are impacts the proposed action would have on a particular resource when added to impacts on that resource due to past, present, and reasonably foreseeable actions within a defined time and geographical area. The Final Environmental Impact Statement (FEIS) notes that Runway 07/25 Alternative 2 may have significant adverse effects to subsistence resource abundance and availability as a result of habitat impacts within the study area.

The project area has been substantially altered over time due to development by the military and other human activities. When the preferred alternatives are included with the past, present, and reasonably foreseeable future actions, the impacts from the proposed project on subsistence resources would be significant.

Response to Sun'aq Tribe of Kodiak
Rick Rowland, Natural Resources Director
March 13, 2013

Comment A_STK 1
The information in these comments, called Traditional Ecological Knowledge, are related to actual rites that the Sun'aq Tribe of Kodiak people have experienced in the area, which will be affected by the FAA Kodiak Airport Extension. This knowledge that is passed orally from elder to youth historically has allowed the Sun'aq People to exist in this area for well over 10,000 years, while living a comfortable lifestyle of the customary and traditional practices by using the natural resources such as the birds, fish, mammals, plants, and earth in and on the land, air and water. The Sun'aq Tribe of Kodiak Resolution 2010-35 refers to preservation, protection and proactive use of customary and traditional natural resources.

Response A_STK 1
Thank you for your comment. The Federal Aviation Administration (FAA) acknowledges the Tribe's knowledge of and traditional uses of the project area.

Comment A_STK 2
The areas being considered for “fill” are very important. The acreage of surface area, “a couple of parcels” that are beings [sic] portrayed in the EIS seems to appear as if they are as thin as the paper it is written on. The 17.8 acres, in fact Alaska Marine Refuge Habitat, being removed by “fill” needs to be looked at in a displaced volume perspective along with area. An abundance of the species, considering the airport “fill” extension area, interact with that volume as they currently live in it, pass through it historically and this interaction would extend over a period of time well into the future. The “fill” will not only cover the surface but remove very important aquatic habitat as well. At the top of the list, in this volume of critical ocean space, are the aquatic plants and invertebrates, the fish, and a wide variety of other habitat species all of which are considered tribal intertidal foods that will be affected.

Response A_STK 2
Thank you for your comment. The Federal Aviation Administration (FAA) recognizes that effects would occur throughout the water column, not just in the 17 acres of submerged lands. The area and volume of loss is disclosed in Final Environmental Impact Statement (FEIS) Table 4.3-1, Summary of Direct Impacts to Wetlands and Waters of the U.S. The impact assessment within the FEIS considers the total loss of habitat, not just the loss of submerged lands.

Indirect impacts, beyond the direct impacts to the acres resulting from fill, are analyzed in the FEIS. For example, the indirect effects to fisheries and their severity are summarized in FEIS Table 4.5-1. Indirect effects to fisheries that may also impact subsistence (Section 4.11) are described in Section 4.5 of the FEIS.

Comment A_STK 3
Additionally, the EIS has not accurately reflected on the declining Sea Lion populations and Seals that use this area as well as how they are an important traditional food source item for the Sug'piaq, Sun'aq Tribe of Kodiak and Alaska Natives.

Response A_STK 3
Thank you for your comment. The Final Environmental Impact Statement (FEIS) Section 4.7, Marine Mammals, includes existing conditions and environmental impact assessment for sea lions and seals. FEIS Chapter (Section 4.11, Subsistence) does not list all species used for subsistence, but this chapter refers the reader to the Subsistence Evaluation (Appendix 12 of the FEIS) that includes a full list of the common subsistence resources in the Kodiak area. Sea lion and sand lance have been added to the list of subsistence resources in the Subsistence Evaluation.

As noted, the proposed projects at Kodiak Airport would not significantly impact populations of seals and sea lions.

As stated in section 4.7 of the Final Environmental Impact Statement (FEIS), there is estimated to be 319 acres of critical sea lion habitat in the project area. The Preferred Alternatives would impact 5.4% of this habitat. This would not result in any significant adverse impacts to the Steller sea lion, because individuals are likely to find abundant unaffected food resources within accessible travel distances from the project area and would not need to expend high amounts of energy to gain access to them.

The Federal Aviation Administration (FAA) has prepared biological assessments for protected species, including the Steller sea lion. The FAA has found that the proposed action may affect, but is not likely to adversely affect the Steller sea lion. The National Marine Fisheries Service (NMFS) has reviewed the FAA's finding and concurred with this finding in July 2013 (see Appendix 6, Biological Assessment Appendix).

Comment A_STK 4

Previously, documents from the Sun'aq Tribe of Kodiak have been presented to the FAA during Tribal Consultation and they should also be considered and recorded as being related to the comments about the ANICLA Section 810 as well. Although, one section in the ANILCA and a few documents cannot totally relate to the importance of this complex critical aquatic habitat and the lifecycle of the salmon because it provides for so many species. The Sun'aq Tribe of Kodiak with traditional ecological knowledge can concur along with other group's [sic] statements that the salmon, one of the species that will be affected by the “fill”, are an important food source for over 137 species. Website list: http://www.salmonnation.com/fish/137species.html. Many on this list use the habitat in the airport area, as well as a considerable amount of other species. A lot of unknowns with this “fill” action will affect the salmon that provide for 137 species listed at the previously mentioned website. While planning to remove such important habitat a very close consideration needs to be taken for the inner tidal habitat and how it will affect the many different species related to it.

Response A_STK 4

Thank you for your comment. Sections 4.5, Fish and Invertebrates, Section 4.6, Waterbirds, Section 4.7, Marine Mammals, and Section 4.8, Upland Vegetation and Wildlife, of the Final Environmental Impact Statement (FEIS) document potential effects from reduced salmon abundance and the effects to other species, including marine mammals and humans.

To minimize effects to important subsistence resources, the Federal Aviation Administration’s (FAA's) Preferred Alternatives avoid direct impacts to the Buskin River. The FAA has used the best available information and methods deemed appropriate by the regulatory agencies with oversight of the marine and freshwater resources in the Environmental Impact Statement (EIS) study area to assess anticipated effects from the various alternatives.

Comment A_STK 5
Not only will the salmon be affected but the tribe along with the local community will be as well.

Response A_STK 5
Thank you for your comment. Sections 4.9, Historical, Architectural, Archaeological, and Cultural Resources, Section 4.10, Socioeconomic Impacts, Environmental Justice, and Children's Health and Safety Risks, and Section 4.11, Subsistence Resources and Uses, of the Final Environmental Impact Statement (FEIS) and the Subsistence Evaluation Appendix note the cultural and socioeconomic importance of subsistence resources to local residents, including the importance of sharing resources. Specifically, Section 4.11 notes that nearly all rural Alaska communities depend on subsistence resources to meet at least part of their nutritional needs. The reasons for participating in subsistence are many and varied. Some individuals participate in subsistence activities to supplement personal income and provide needed food.

Others pursue subsistence activities to continue cultural customs and traditions. Many others participate in subsistence activities for reasons unconnected with income or tradition. For many individuals, subsistence reflects deeply-held attitudes, values, and beliefs about where their food comes from, as well as the ability to supply their families directly through their own work.

Comment A_STK 6
In the event that habitat loss does occur it will be important to consider the length of time that it will take to regenerate the natural cycle. It could take well over fifty years to regenerate naturally as commented on and mentioned during the tribal request during the consultation about the mitigation process.

Response A_STK 6
Thank you for your comment. Direct impacts resulting from the placement of fill would be immediate and permanent. Indirect impacts, beyond the direct impacts to the acres resulting from fill, are summarized in the Final Environmental Impact Statement (FEIS) Table 4.5-1. The timeframe for indirect impacts is not certain, but they would be expected to occur soon after implementation. To minimize effects to important subsistence resources, the Federal Aviation Administration's (FAA's) Preferred Alternatives avoid direct impacts to the Buskin River. The FAA has used the best available information and methods deemed appropriate by the regulatory agencies with oversight of the marine and freshwater resources in the Environmental Impact Statement (EIS) study area to assess anticipated effects from the various alternatives. The FEIS notes that Runway 07/25 Alternative 2 may have significant adverse effects to subsistence resource abundance and availability as a result of habitat impacts within the study area.

Comment A_STK 7
The filled area will also close traditional fishing areas.

Response A_STK 7
Thank you for your comment. The Final Environmental Impact Statement (FEIS) Section 4.11, Subsistence Resources, and the Subsistence Evaluation Appendix note that some subsistence users would be displaced from preferred fishing locations as a result of placement of fill beyond Runway end 25. Subsistence users would still be able to access areas open to fishing under both the state and federal regulations. There would be increased competition for preferred subsistence fishing spots, but the increase in competition is not expected to be significant. In addition, while the runway safety improvement would affect the location of the regulatory marker, the Federal Aviation Administration (FAA) cannot implement subsistence regulations to ensure the subsistence boundaries would remain in place. Decisions regarding regulatory boundary adjustments for this area are the jurisdiction of the Federal Subsistence Board and the Alaska Board of Fisheries.

Comment A_STK 8
Migratory birds [sic] feeding areas will be removed as well.

Response A_STK 8
Thank you for your comment. Information on the effects to migratory birds are disclosed in Section 4.6, Waterbirds, in the Environmental Impact Statement (EIS). The direct, adverse impacts of each of the Runway Safety Area (RSA) Build Alternatives on waterbird species would include the permanent alteration and, in some cases, loss of habitats along with temporary displacement of waterbirds as a result of human presence and noise associated with project construction activities. The loss of foraging habitat may have a minor impact on individual waterbirds, but would not affect the stability of any waterbird populations in the Project Area due to the large amount of available suitable habitat within Chiniak Bay.

Comment A_STK 9
By taking the important nursery, feeding and fresh/saltwater salmon transitional areas away and by filling in volumes of rock to make the extension it could be a higher impact than is being stated. There must be some way to balance this important marine habitat being taken away.

Response A_STK 9
Thank you for your comment. The Final Environmental Impact Statement (FEIS) Section 4.11, Subsistence Resources, and the Subsistence Evaluation Appendix identifies all alternatives that place fill in areas under the influence of the freshwater plume as having significant impacts to abundance and availability of subsistence

resources. The FAA has used the best available information and methods deemed appropriate by the regulatory agencies with oversight of the marine and freshwater resources in the EIS study area to assess anticipated effects from the various alternatives. To minimize effects to important subsistence resources, the FAA's Preferred Alternatives avoid direct impacts to the Buskin River. Compensatory mitigation would be provided for unavoidable impacts (Chapter 6 of the FEIS describes the FAA's compensatory mitigation plan).

Comment A_STK 10

Looking forward proactively to the potential replacement of the removed habitat the [sic] ratio consideration should be set at 10:1 because it is such an important area and one of very few Sockeye Salmon producing streams in the Gulf of Alaska. Since the "fill" is going to be affecting so many species and some regulatory provisions recommend for "flexibility in Alaska", we need to care for our environment as respectful stewards that are responsibly taking care of such important food sources, habitat items and areas to ensure that there will always be a long term sustained yield.

Response A_STK 10

Thank you for your comment. Chapter 6 in the Draft Environmental Impact Statement (DEIS) ("Mitigation") has been revised in the Final Environmental Impact Statement (FEIS) to describe in more detail the proposed mitigation plan for this project. In developing the mitigation plan, the Federal Aviation Administration (FAA) and the Alaska Department of Transportation and Public Facilities (ADOT&PF) have coordinated with tribal governments, the Alaska Department of Fish and Game (ADF&G), the National Marine Fisheries Service (NMFS), the U.S. Fish and Wildlife Service (USFWS), the Environmental Protection Agency (EPA), and the U.S. Army Corps of Engineers (ACOE), and have considered all relevant comments. To develop a plan that addressed all of these impacts and complies with the regulations under which the FAA and ADOT&PF must operate, the FAA took into account both the nature and intent of the mitigation proposals suggested, as well as the comments provided by resource agencies, Tribes, and the public during the comment period and public hearings. The FAA also considered comments received on the ANILCA Title XI application and reviewed other types of projects for which the identified impacts and mitigation measures might be considered comparable to those anticipated for this project.

Chapter 6 includes discussion of specific mitigation options. As described in that chapter, compensatory mitigation would be provided through an in-lieu fee (ILF) payment that would be used to purchase high-value habitat in the Kodiak area for preservation. An additional payment would be made to ADF&G for its subsistence management program on the Buskin River. That payment would be used either to continue the current adult escapement monitoring program or to develop a smolt enumeration study. For further explanation, please see Chapter 6 of the FEIS.

Response to Patrick Holmes
April 10, 2013

Comment A_PH 1
Page 2 - Line begins with “In order to understand what constitutes….” - Comment: Define “Alaska Land Use Council"

Response A_PH 1
Thank you for your comment. This sentence was revised to say “In order to understand what constitutes a significant restriction of subsistence uses to meet the terms of the 810 evaluation, the Alaska Land Use Council (a council of federal, state, and native corporations established under ANILCA to provide guidance on implementing the provisions of ANILCA) clarified the definition of a “significant restriction of subsistence use.”

Comment A_PH 2
Page 6 - Line begins with “The Project Area includes waters of the USCG Base” - Comment: There is an MOA that harvest and escapement maintained by ADF&G. Contact Jennifer Yahas - Federal Subsistence team lead F&G 459-7277 or 388-7051.

Response A_PH 2
Thank you for your comment. The Federal Aviation Administration (FAA) is aware of and has seen the Memorandum of Agreement (MOA). Per comments received during the public hearing, the Subsistence Evaluation Appendix has been revised to include text to clarify that State fisheries managers actively manage and monitor both the state and federal fishery.

Comment A_PH 3
Page 6 - Line begins with “At that time, there were over 9,000” - Comment: Change the word “Inuit” to “Alutiiq".

Response A_PH 3
Thank you for your comment. The word “Inuit” was changed in the Subsistence Evaluation Appendix to “Alutiiq”.

Comment A_PH 4
Page 7 - Line begins with “The local culture is dominated by commercial and subsistence” - Comment: Are there % from the last census? A certain % of the population doesn't participate in Fed [sic] Subsistence, only State subsistence. George Papus, Office of Subsistence

Response A_PH 4
Thank you for your comment. As the permits required do not breakdown state vs. federal use, these numbers are not available. The focus of an 810 Evaluation is on the total number of subsistence users and the Subsistence Evaluation Appendix considers harvest under both federal and state regulations.

Comment A_PH 5
Page 9 - Table - Bowhead Whale - Comment: Not here.

Response A_PH 5
Thank you for your comment. Bowhead Whale has been removed from this table.

Comment A_PH 6
Page 9 - Table - Blue king crab - Comment: Only on south end of island.

Response A_PH 6
Thank you for your comment. Blue king crab has been removed from this table.

Comment A_PH 7
Page 9 - Table Tanner crab, Opillio - Comment: Bering Sea only.

Response A_PH 7
Thank you for your comment. Both the Environmental Impact Statement (EIS) and the Subsistence Evaluation Appendix include that if there is habitat within the project area OR species are noted in Chiniak Bay, they are considered within the impact assessment. This is a conservative documentation to provide for potential impacts to species. In addition, the National Marine Fisheries Service (NMFS) has documented this species in Chiniak Bay (NMFS 2008). FEIS Section 4.5, Fish and Invertebrates, notes that Tanner crab, red king crab (NMFS 2008), Pacific herring, and Pacific halibut (Wynne et al. 2005) have been documented in Chiniak Bay and appropriate habitats for these species exist in the Project Area and Landscape Area.

Comment A_PH 8
Page 11 - Line begins with “Resource collection of plants and animals occurs throughout the year in the Kodiak area” - Comment: Spring - snowshoe hare and feral rabbits.

Response A_PH 8
Thank you for your comment. The sentence was modified in the Subsistence Evaluation Appendix as follows “Springtime harvest in the Kodiak area often involves fishing for Dolly Varden, hunting snowshoe hare and feral rabbits, and collecting bird eggs.”

Comment A_PH 9
Page 11 - Line begins with “Subsistence resources harvested within the Project area include salmon…” - Comment: add herring, eulocohon smelt, 486-1880 validate w. Don Trackey (spelling?) add sea lion.

Response A_PH 9
Thank you for your comment. Herring, smelt and sea lion were added to this sentence.

Comment A_PH 10
Page 14 - Line begins with “94 percent of the USCG base residents harvest fish in 1991 and 71 percent of residents in the City of Kodiak harvesting fish” - Comment: This does not reflect what really happens. A few people catch a lot and give away. Cultural exchange

Response A_PH 10
Thank you for your comment. The Subsistence Evaluation Appendix contains the following sentences:

“The importance of subsistence in the community’s culture (particularly for the City of Kodiak) is also shown by the following statistic: 91 percent of Kodiak residents received fish from others and 72 percent gave fish to others in 1991 and that households within and outside of the local area trade and share resources.”

Comment A_PH 11
Page 14 - Line begins with “The fishery boundary and closure area shown on this figure were adopted by the Federal Subsistence Board…” - Comment: Closures are defined by ADF&G and then adopted by the Feds and jointly adjust boundary. Talk to James Jackson 486-1830. Everyone get [sic] state subsistence permit.

Response A_PH 11
Thank you for your comment. We revised text to state that the State Board of Fisheries defined the initial closure area and that this area was later adopted by the federal subsistence board.

Comment A_PH 12
Page 15 - Line begins with “way to the Buskin River mouth.” - Comment: Add “due to the higher #s then [sic] expected of returning sockeye to reduce potential of over escapement".

Response A_PH 12
Thank you for your comment. The text has been revised to state: “In 2011, the ADF&G opened the Buskin River closure area to subsistence fishing all the way to the Buskin River mouth due to the higher numbers than expected of returning sockeye to reduce potential of over escapement.”

Comment A_PH 13
Page 15 - Line begins with “As part of an effort to provide an update on the Buskin River…” - Comment: Jim Fall has the survey information and knows most about which surveys are used to collect each type of info. Jim Fall research head for subsistence division. Get dates.

Response A_PH 13
Thank you for your comment. Jim Fall was not involved in the surveys referenced in the Subsistence Evaluation Appendix. Donn Tracy was the lead for these surveys and appropriate dates are referenced in the Subsistence Evaluation Appendix. The Federal Aviation Administration (FAA) is unaware of user surveys since the 2007-2008 surveys referenced here.

Comment A_PH 14
Page 17 - Table 5 - Comment: More current info may be out now. Talk to Jamie Jackson 486-1830.

Response A_PH 14
Thank you for your comment. Table 5 includes reported Buskin River drainage subsistence harvest by salmon species for years 2002 through 2011. Contact was made with the Alaska Department of Fish and Game (ADF&G) and the most recent data for 2012 has been incorporated into the report.

Comment A_PH 15
Page 18 - Line begins with “Historically, the pink salmon fishery has…” - Comment: replace “has” with “had".

Response A_PH 15
Thank you for your comment. This change has been made.

Comment A_PH 16
Page 18 - Line begins with "…been the most common subsistence fishery on the Buskin River…" - Comment: add prior to WWII and recent years sockeye and coho have improved and locals have adjust. [sic]

Response A_PH 16
Thank you for the historical information on pre-WWII fishing and WWII changes at the Buskin River. The Final Environmental Impact Statement (FEIS) and Subsistence Evaluation Appendix have been revised to note this information.

Comment A_PH 17
Page 18 - Line begins with "Chinook (king) and chum (dog). (entire paragraph)" - Comment: add "because of diversion of river caused diminished runs, add in Moses story."

Response A_PH 17
Thank you for your comment. The Final Environmental Impact Statement (FEIS) and Subsistence Evaluation Appendix have been revised to include historic context.

Comment A_PH 18
Page 25 - Line begins with "Construction Completion Year (2015) paragraph" - Comment: at low tide, could also increase predation.

Response A_PH 18
Thank you for your comment. The following was added to the Subsistence Evaluation Appendix for all 07/25 alternatives: "Juvenile salmonids following the shoreline into deeper waters around the runway footprints would be exposed to additional predation by larger fish that inhabit deeper waters, and also by fish that would inhabit the new rocky intertidal and subtidal habitats created by the rock armor fill."

Comment A_PH 19
Page 25 - Line begins with Pacific sand lance, capelin, and surf smelt - Comment: adults only. Consumed by adults (juvenile salmonids do not eat adult sand lance, capelin etc.).

Response A_PH 19
Thank you for your comment. The commenter is correct, juvenile salmonids do not eat adult species, only larvae. This sentence was revised as follows: "In addition, fill placed in the shallower, freshwater-influenced habitat would displace important prey species for juvenile salmonids, such as the Pacific sand lance larvae, capelin larvae, and surf smelt larvae."

Comment A_PH 20
Page 25 - Line begins with “07/25 alternative 2 would affect 2.9 percent of the subsistence use area” – Comment: This alt may have significant or long term impacts.

Response A_PH 20
Thank you for your comment. The Subsistence Evaluation Appendix and the Final Environmental Impact Statement (FEIS) disclose that there may be significant impacts from the proposed project and significant long-term impacts to abundance and availability of subsistence resources.

Comment A_PH 21
Page 26 - General page comment - Comment: make sure this is covered: sedimentation, fill, predation, in this section.

Response A_PH 21
Thank you for your comment. While the Subsistence Evaluation Appendix does not include information on sedimentation, the information from that modeling was used to assess impacts to subsistence resources and uses. The fluctuations near the runway (north/south) are superimposed on a slow but steady move to the north—under 1,500 feet total since construction over 60 years ago. Some stream mouths move that much in a single season. It is likely the present position is near an equilibrium given the slow rate of net drift of longshore materials from the south (or supplied by the river) and the flooding potential of the Buskin River.

The effects of fill are discussed under each alternative and throughout the Subsistence Evaluation Appendix. For example, page 27 states “Significant effects to subsistence resources would result primarily from placement of fill onto freshwater-influenced marine habitat.”

The following was added to Section 4.11 of the FEIS and the Subsistence Evaluation Appendix for all 7/25 alternatives “Juvenile salmonids following the shoreline into deeper waters around the runway footprints would be exposed to additional predation by larger fish that inhabit deeper waters, and also by fish that would inhabit the new rocky intertidal and subtidal habitats created by the rock armor fill.”

Comment A_PH 22
Page 26 - Line begins with “Evaluation of the Availability of Other Lands for Airport Improvements” - Comment: Possibly reiterate that State manages the fish.

Response A_PH 22
Thank you for your comment. The text in question is about evaluation of availability for other lands to expand the airport. The consideration of management is included elsewhere in the Subsistence Evaluation Appendix. Addition of management into this paragraph could lead to confusion and was not included.

Comment A_PH 23
Page 26 - Line begins with “Construction Completion Year 2015 for 7/25 alternative 3”. Where we say similar to Alternative 2 but slightly larger - Comment: “slightly” not an accurate descriptive word. It is more than slightly larger.

Response A_PH 23
Thank you for your comment. The word “slightly” was removed. The acres comparison (15.1 acres) occurs on the following page (page 27).

Comment A_PH 24
Page 27 - Line begins with (use of the word slightly again) - Comment: same as previous comment. Not accurate word.

Response A_PH 24
Thank you for your comment. The word “slightly” was removed. The acres comparison (15.1 acres) remained.

Comment A_PH 25
Page 36 - Line begins with “Runway 18/36 RSA Alternative 7 - Evaluation of the Alternatives Effect of Use, Occupancy…” - Comment: this alt, note, would allow river mouth to shift naturally.

Response A_PH 25
Thank you for your comment. To minimize effects to important subsistence resources, the Federal Aviation Administration’s (FAA's) Preferred Alternatives avoid direct impacts to the Buskin River. Runway 18/36 RSA Alternative 7 would result in the least impact to the Buskin River and the ability of the river mouth to shift.

Comment A_PH 26
Page 36 - Line begins with “…increase during construction on the Runway 36 end, because users would be unable to access locations during placement” - Comment: Not much happens there anyway so really no impacts as users don't use it much.

Response A_PH 26
Thank you for your comment. To minimize effects to important subsistence resources, the Federal Aviation Administration’s (FAA's) Preferred Alternatives avoid direct impacts to the Buskin River. The Subsistence Evaluation Appendix and Final Environmental Impact Statement (FEIS) note that there are subsistence uses beyond Runway end 36 and that subsistence users would be unable to access this location during placement of fill and this sentence acknowledges that loss of use.

Comment A_PH 27
Page 37 - Line begins with “Therefore, because Runway 18/36 Alternative 7 avoids the Buskin River area……due to its avoidance of the Buskin River” - Comment: Move the entire referenced sentences to top. Important to say at the front of paragraph.

Response A_PH 27
Thank you for your comment. The following sentence has been placed at the beginning of the paragraph: “Runway 18/36 Alternative 7 avoids the Buskin River area, this alternative is not expected to have significant long-term impacts to access to and competition for subsistence resources. This alternative represents the least amount of impact on subsistence resources due to its avoidance of the Buskin River area.”

Comment A_PH 28
Page 37 - Line begins with “While some individuals would have to relocate to similar harvesting locations due to placement of fill at their current subsistence harvesting locations…” - Comment: not much harvest in south end. Potentially delete or reword.

Response A_PH 28
Thank you for your comment. While there is not as much harvest on the south end of the runways, this sentence acknowledges that those individuals that do use the area would have to relocate.

Comment A_PH 29
Page 40 - Table 8 - Comment: Some of these projects wouldn't impact. Why listed? What is the connection to this project? Some of these projects are very far away.

Response A_PH 29
Thank you for your comment. The analysis of cumulative impacts takes into account past, present, and reasonably foreseeable future actions, regardless of the responsible agency, organization, or individual. The list of projects provided are those that were considered in the cumulative impact assessment for impacts. Although most, if not all, do not result in cumulative impacts for the resources considered, the list of projects is provided to disclose those that were considered in the assessment.

Comment A_PH 30
Page 40 - Table 8, St. Herman Harbor Loading Facility - Comment: Done.

Response A_PH 30
Thank you for your comment. The projects listed for consideration of cumulative impacts have been revised to reflect the most recent status of each project.

Comment A_PH 31
Page 40 - Table 8, Mayflower switchbacks rehabilitation - Comment: 25 miles away.

Response A_PH 31
Thank you for your comment. The analysis of cumulative impacts takes into account past, present, and reasonably foreseeable future actions, regardless of responsible agency, organization, or individual. The list of project provided are those that were considered in the cumulative impact assessment for impacts. Although most, if not all, do not result in cumulative impacts for the resources considered, the list of projects is provided to disclose those that were considered in the assessment.

Comment A_PH 32
Page 40 - Table 8, Anton larsen [sic] Bay Road Extension - Comment: Delete, on other side of island.

Response A_PH 32
Thank you for your comment. The analysis of cumulative impacts takes into account past, present, and reasonably foreseeable future actions, regardless of responsible agency, organization, or individual. The list of projects provided are those that were considered in the cumulative impact assessment for impacts. Although most, if not all, do not result in cumulative impacts for the resources considered, the list of projects is provided to disclose those that were considered in the assessment.

Comment A_PH 33
Page 40 - Table 8 - general - Comment: note minor impacts but likely no direct impacts. Put context.

Response A_PH 33
Thank you for your comment. The analysis of cumulative impacts takes into account past, present, and reasonably foreseeable future actions, regardless of responsible agency, organization, or individual. The list of projects provided are those that were considered in the cumulative impact assessment for impacts. Although most, if not all, do not result in cumulative impacts for the resources considered, the list of projects is provided to disclose those that were considered in the assessment.

Comment A_PH 34
Page 41 - some projects, such as construction of a UV water treatment plant, may actually improve conditions - Comment: Too far north. Not true because pathogens don't affect fish.

Response A_PH 34
Thank you for your comment. The analysis of cumulative impacts takes into account past, present, and reasonably foreseeable future actions, regardless of responsible agency, organization, or individual. The list of projects provided are those that were considered in the cumulative impact assessment for impacts. Although most, if not all, do not result in cumulative impacts for the resources considered, the list of projects is provided to disclose those that were considered in the assessment.

Regarding pathogens, while limited, there are pathogens that are shared between human and fish species that can be spread through waste water disposal.

Comment A_PH 35
Page 44 - general page comment - Comment: reference Jack J for Table 5

Response A_PH 35
Thank you for your comment. Alaska Department of Fish & Game was contacted for the most recent information on subsistence uses and the list of references and sources reflects those that were relied upon in the assessment.

Response to Public Hearing Testimony: Iver Malutin (First Set of Verbal Comments)
March 21, 2013

Comment A_Hearing 1
Anyway, my name is Iver Malutin, and I was born in Kodiak 82 years ago, and I've lived here all my life. And I have a really, really great concern and an interest in what happens to all of our land and all of our resources. One of the things that I do -- all I am now at this age is an advocate. And I get a lot of food for the elders, and a lot of food for the needy. And the food that I'm talking about isn't the food that you get at Walmart, Safeway, or some of these others. There's no money involved, usually. And then on top of that, one of our biggest providers that we get -- of our subsistence are the people like you, and other people that are -- like the Ducks Unlimited people that shoot ducks and don't eat everything. And people that catch a lot of fish -- like in the spring I go to the dumpsters, over there at the cleaning table, and they clean the fish. And then most of the people -- most of the people, like you take the fillets and they leave the head and they leave the backbone and they leave all the meat. And that's where I come in. And I go and I get that and then distribute that to the elders, because that's probably the best part of the fish to us. So I would really, really hate to see anything adversely affect our subsistence.

Response A_Hearing 1
Thank you for your comment. The Federal Aviation Administration (FAA) recognizes that subsistence resource harvest in the region, including adjacent to the airport, is very important to all user groups in Kodiak, including Native Alaskans. To minimize effects to important subsistence resources, the FAA's Preferred Alternatives avoid direct impacts to the Buskin River. The Subsistence Evaluation Appendix and Final Environmental Impact Statement (FEIS) Sections 4.10, Socioeconomic Impacts, Environmental Justice, and Children's Health and Safety Risks and 4.11 Subsistence Resources and Uses, describe how impacts to subsistence could affect take-home resources for food and that the reduction in subsistence resources per capita would likely be felt to a larger extent by low-income populations because higher income populations could generally make up the difference in subsistence use through other resources (salary, etc.).

Comment A_Hearing 2
And let me tell you this, subsistence was never a word for us. And subsistence came into being, which was stated in 1959. We fished here morning, noon, and night. Hunted morning, noon -- we did everything under the guidelines, and all of a sudden after statehood things began to change. And one of the things that began to change there was people that were called ADF&G that came to Kodiak. And when they came to Kodiak they had all kinds of information that we weren't familiar with, regulations. We can do this, we could do that. Who are those people to tell us what we can and can't do when we've lived here all our life, and we were subsiding all our life, by their standards? But they did. And even though it was a shock to us, we tried to comply, and we tried to do the best we could with them. And even though they don't have enough policemen, you know, officers to enforce their means of laws that they make, we do what we have to do to survive. And if they think that 25 fish, whatever that person said -- okay, that's their numbers. And where they got them I don't know. But sometimes it might be and sometimes it may not be.

Response A_Hearing 2
Thank you for your comment. The Subsistence Evaluation Appendix and the Final Environmental Impact Statement (FEIS) were prepared in consideration of current applicable laws and regulations. The Federal Aviation Administration (FAA) recognizes that historically there has been, and continues to be subsistence by Native Alaskans associated with traditional and cultural practices.

Comment A_Hearing 3
So the Buskin River is one of our biggest, biggest sources of fish that we had for years and years and years, at least according to my brother, Moses. He was 95 when he died two years ago. And he told me that was a huge salmon stream out there, huge, and that was one of the main subsistences.

And we hate to see anything change worse than it is today. And the reason I say, “any worse than ... today,” is I'm really worried, because Karluk used to be the largest red salmon stream in the world. It used to be, according to the books in the manual. And it said that there were ten canneries in the river at Karluk. There's pictures of that. And in 1910 they harvested 610,000 cases of salmon, over half the salmon catch in Alaska. And I've been at Fish & Game, Fish & Wildlife and everywhere getting information on that, anything to see what happened, if that was the case. Why couldn't we even subsistence fish a few years ago in Karluk. [sic]

Response A_Hearing 3
Thank you for your comment and the historical information on pre-WWII fishing and WWII changes at the Buskin River.

Comment A_Hearing 4
Why don't we use our technology. You're making all the rules. And making all the rules, of course it's technology that's going to serve our purpose in the future, that the fish are going to be here. I'm worried. And now I see Buskin coming, and I'm worried because all kinds of things are being said, and by their scientific values. And then you have the definition of a scientist, to me is a person that cannot make a decision based on commonsense. That's five fingers. That's some commonsense. Even Einstein, at best, when he made a decision only that much, not 100 percent, until he had years to go on. Science just told me that. So based on that I'm worried. I'm really worried because you are doing the best that you can with what you got with this information. And most of it, to me, is a guesstimate. And I'd just hate to see another Karluk and another Litnik, even though Litnik is coming back.

Response A_Hearing 4
Thank you for your comment. The Federal Aviation Administration (FAA) has used the best available information and methods deemed appropriate by the regulatory agencies with oversight of the marine and freshwater resources in the Environmental Impact Statement (EIS) study area to assess anticipated effects from the various alternatives.

Comment A_Hearing 5
And I was told by AM&G people that salmon is the new resource, and I believe that. But for whatever reason we can't even subsist in Litnik and the Afognak. The same thing happened there. And when we're talking about doing something to the runway and if it's in fact a change of pattern, I probably won't have to worry about it. I'll probably be gone. But anyway, the people behind me will. And that's what bothers me. And I just hope we do the best we could in making sure that everybody gets the food that they need in Kodiak.

Response A_Hearing 5
Thank you for your comment. The Federal Aviation Administration (FAA) has used the best available information and methods deemed appropriate by the regulatory agencies with oversight of the marine and freshwater resources in the Environmental Impact Study (EIS) study area to assess anticipated effects from the various alternatives.

Section 4.11, Subsistence Resources and Uses, of the Final Environmental Impact Statement (FEIS) and the Subsistence Evaluation Appendix note that some subsistence users would be displaced from preferred fishing locations as a result of placement of fill off Runway 07/25. Subsistence users would continue to be able to access areas open to fishing under both the state and federal regulations. There would be increased competition for preferred subsistence fishing spots, but the increase in competition is not expected to be significant. In addition, while the runway safety expansion would affect the location of the regulatory marker, the FAA cannot implement subsistence regulations to ensure the subsistence boundaries would remain in place. Decisions regarding regulatory boundary adjustments for this area are the jurisdiction of the Federal Subsistence Board and the Alaska Board of Fisheries.

Comment A_Hearing 6
And so all I'm saying is that all decisions that are going to be made, please, please, please use commonsense in making your decisions.

Response A_Hearing 6
Thank you for your comment.

Response to Public Hearing Testimony: Patrick Holmes (First Set of Verbal Comments)
March 21, 2013

Comment A_Hearing 7
I'd like to -- before I start, a really important point I was going to raise -- let me find my notes. On Page 18, and the discussion about, historically, pink salmon fishery's most common subsistence fishery is the Buskin, but sockeye and coho populations have improved more -- have improved. More residents have moved towards those fisheries.

Response A_Hearing 7
Thank you for your comment. Section 4.11, Subsistence Resources and Uses, of the Final Environmental Impact Study (FEIS) notes that the most-harvested salmon in the area is sockeye salmon, followed by Coho salmon, pink salmon, Chinook salmon, and chum salmon.

Comment A_Hearing 8
But I'd like to reflect back to, you know, Moses, Iver's older brother, is a guy that mentored me, and I studied him for many years before I got enough courage to have coffee and tell stories with him. But I wonder if, Iver, could you mention what your brother said about the postwar change and the river once they moved the mouth and built the original runway? Because in my earlier comments in previous meetings I noted that folks in town were skeptical about anything happening that changes the mouth of the river and changes, you know, the fish in the bay. But Iver had a good comment, or your brother did, on -- when they did do that change, on how that affected fish, and particularly the pinks and reds. Do you recall? Should I go ahead? Okay. Basically, when they changed the -- built the runway, it used to be almost a half mile father south. And when that happened, after that it really messed things up, according to Moses. And after the war there were many years that through the -- that, you know -- that all that was left were the pinks, which are salmon that recover quickly and spawn in the lower part of the river. But you know, it wasn't really until probably sometime in the -- what, the late '60s, early '70s, that started getting any amount of sockeye there. So I think that's the case of the memories of the old-timers and messing around with the river itself, and its dynamics really has an effect.

Response A_Hearing 8
Thank you for your comment and the historical information on pre-WWII fishing and WWII changes at the Buskin River.

Comment A_Hearing 9
Myself, I'm a retired biologist and I do pro bono consulting on fisheries. In the mid '80s I put together a major research program for Alaska Department of Fish & Game here in Kodiak. And unfortunately, most of that money is gone.

Response A_Hearing 9
Thank you for your comment.

Comment A_Hearing 10
But my main comment is I think that it's pretty incredible that there was flexibility on -- in this hearing process. And on 18/36 it appears that the alternative of shifting the runway to the south and away from the spit going across the mouth in the lagoon there. To me, that's a really good idea because it will provide for more of an RSA. Maybe not as much as would be desired, but I think it's of the ultimate importance not to mess around with that business -- or the big sand dune part at the mouth of the lagoon. Because periodically through time from talking to the old-timers, and my own observations since '63, the mouth moves back and forth and has moved mainly to the north in recent years. But that's a function of predominant whims [sic], and we're in the Gulf of Alaska and the Aleutians, so when we have easterlies things tend to fill, and when we have westerlies it tends to change.

Or -- anyway, one overall observation on this document is you should have had some discussion of the marine geomorphology of the bay and the mouth, and I'll come back to that in greater detail. I had discussed earlier on with Gary Carver (phonetic), he's an emeritus geologist and geomorphologist from Humboldt University, and he's retired here in Kodiak. And we've chatted about the effects of putting things in the bay and how the effect on the sedimentation and filling would occur. And of course, the farther out of the main runway -- pardon me if I get my numbers wrong -- 7/25 sticks out, the more impact there could be in the shallow area there, and probably cause it to fill and making it more shallow.

Response A_Hearing 10

Thank you for your comment. The commenter is correct that Runway 18/36 would result in the least impact for the improvement to the Runway Safety Area (RSA) for that runway. While the Subsistence Evaluation Appendix does not include information on sedimentation/coastal modeling, the information from that modeling was used during the assessment of impacts to fisheries.

The fluctuations of the Buskin River mouth near the runway (north/south) are superimposed on a slow but steady move to the north—under 1,500 feet total since construction over 60 years ago. It is likely the present position of the Buskin River is near an equilibrium given the slow rate of net drift of longshore materials from the south (or supplied by the river) and the flooding potential of the Buskin River.

Comment A_Hearing 11

And I've observed in recent years as the mouth has moved more to the north, particularly in the spring and late April and May, when the smolt go out on a minus tide and then as you raise the level of the beach subtitle area, then that increases the area for gulls and eagles to feed on out-migrating smolt. And you could put down with the binocs and watch them having a wonderful smorgasbord. And I mentioned that at a couple hearings, and so I think that is an important component of this whole discussion.

Response A_Hearing 11

Thank you for your comment. Sections 4.5, Fish and Invertebrates and Section 4.11, Subsistence Resources and Uses, of the Final Environmental Impact Statement (FEIS) and the Subsistence Evaluation Appendix describe the importance of the nearshore habitat for salmon smolt and other species. Specifically, Final Environmental Impact Statement (FEIS) Section 4.5 notes that the intertidal area provides important habitat for various fish species. For example, juvenile salmonids may use the nearshore areas near the mouth of the Buskin River during and after smoltification (i.e., when adjusting to salt water).

Comment A_Hearing 12
I do acknowledge your discussion on the freshwater plume and its role in the early life history of the salmon nets, and that's good.

Response A_Hearing 12
Thank you for your comment.

Comment A_Hearing 13
There is a point in here where it's discussing sand lance and other forage fish as being important for feeding for juvenile salmon. Most sockeye go out at the Buskin, about that long, maybe four inches, and if they're nice and fat then they have a better survival. Sockeye smolt do not eat forage fish. They can't. They feed on copepod and isopod and smaller planktonic, old plankters. And they're basically smaller than most of the forage fish that are listed. They may feed on the pinks. They also feed on very small critters. And as they go out, they're probably as long as the first digit on your finger, maybe an inch and a quarter, inch and a half. Same with chum. As they get bigger they might feed on juveniles of those species listed, but not on the adults. There aren't any chinook smolt in that system, but occasionally there will be some chinook that come back from the planting effort. Chinook is a larger smolt, and they might eat juveniles of those critters, but that's a point where somehow your consultants have mixed things up, because those fish, forage fish, are eaten by adult coho and adult chinook. But not so much for pinks, chums, or definitely not sockeye.

Response A_Hearing 13
Thank you for your comment. The forage fish mentioned in Final Environmental Impact Statement (FEIS) Sections 4.5, Fish and Invertebrates, and Section 4.11, Subsistence Resources and Uses, and the Subsistence Evaluation Appendix refer to juvenile life stages of those fish. The documents have been revised to clarify the distinction between species.

Comment A_Hearing 14
But the role of the fresh water plume, as far as nutrient [sic] for outgoing fry and smolt, is an important discussion.

Response A_Hearing 14
Thank you for your comment.

Comment A_Hearing 15
And I do commend you on Runway 25, from shortening it up 400 feet. If I were a troll -- what do you call a tree hugger that identifies with little baby fish? A fish smacker, I guess. I would probably say “absolutely not” on extending that runway. And earlier comments I did. But I feel it -- backing it down to 600 feet still has to provide for human safety.

Response A_Hearing 15
Thank you for your comment.

Comment A_Hearing 16
But I think the most important plan in my comment at this time and the previous time you folks came is that if you're extending runway 25 out the 600 feet, there will be an impact in the marine intertidal area to the north and west of the runway. And I feel that it is absolutely, absolutely imperative that there be a monitoring program for smolt, particularly with sockeye. That's the one critter that you can monitor, and you can see cause and effect, and that would give folks a two- to three-year warning if something is amuck, if the little smolt going out are small. As I mentioned before, funding with the agencies is pretty nebulous. They didn't have a program this year because of -- it didn't end up getting a grant from our subsistence counsel that I'm on, and to me that's the most absolute, absolute imperative -- if the runway's extended, to have a smolt-monitoring program, because that will be something that the management agencies can use to adjust things and determine whether there are some other -- if there is cause and effect. And that's -- that's the one thing you can do. And to me that weighs more than mitigation or any kind of enhancing of marsh in Nebraska or providing more lands for parks. I have -- well, a friend of almost everybody in the park committee, I know that they'd like to have more land. But to me the value of the sockeye and the smolt and subsistence to our community is so important that it's much more important than land for recreation or any kind of thing that could come up from mitigation other than monitoring the smolt. So that's my real important point.

Response A_Hearing 16
Thank you for your comment.
Because the FAA received several comments from the community requesting a smolt monitoring program during the EIS process, the mitigation plan described in Chapter 6 of the FEIS includes a payment of $200,000 to the ADF&G to fund their subsistence management program on the Buskin River. These funds would be used either to continue the adult escapement monitoring or to develop a smolt enumeration study. This management program would aid in the management of sustainability of salmon runs and provide information that could improve management of the river for subsistence users.

Comment A_Hearing 17
I will stop. And some other things that are editorial differences that probably should go in your final plan I can talk to you later about.

Response A_Hearing 17
Thank you for your comment. [Commenter provided additional comments later in the hearing and via phone to the Federal Aviation Administration (FAA) and those comments are included within this section.]

Response to Public Hearing Testimony: Paul Chervenak, Fish & Game Advisory Committee
March 21, 2013

Comment A_Hearing 18
Yeah. My name is Paul Chervenak. And I really didn't have anything prepared. I'm just trying to get up-to-date on this. But I am a 32-year resident of Kodiak. And not as much experience as Iver and Pat, but I've talked to a lot of the old-timers, many that are no longer with us, who did bring up the aspects when the runway was changed originally and the main runaway, what it did to salmon streams. I also serve, for the last 15 years, on the Fish & Game Advisory Committee, and I've heard a lot of peoples' concerns. I would like to give kudos to the changes, like Pat mentioned to [sic]. So far, shortening the extension of I guess 7/25, and switching the extension on 18/36 because I do have great concerns, also, about the -- up on the smolt and the Buskin.

Response A_Hearing 18
Thank you for your comment.

Comment A_Hearing 19
And I also would really like to see funding for -- or some type of monitoring program for the smolt and the changes that will occur.

Response A_Hearing 19
Thank you for your comment.
Because the FAA received several comments from the community requesting a smolt monitoring program during the EIS process, the mitigation plan described in Chapter 6 of the FEIS includes a payment of $200,000 to the ADF&G to fund their subsistence management program on the Buskin River. These funds would be used either to continue the adult escapement monitoring or to develop a smolt enumeration study. This management program would aid in the management of sustainability of salmon runs and provide information that could improve management of the river for subsistence users.

Response to Public Hearing Testimony: Rick Rowland, Sun'aq Tribe of Kodiak
March 21, 2013

Comment A_Hearing 20
Hi. My name is Rick Rowland, and I'm originally from Afognak Island. I was born here in Kodiak over 50 years ago, so I'm a lifelong resident of Kodiak Island. I've seen a lot of things change in this day and age that has made things better.

Some things have made things worse. But I appreciate the opportunity to come here and speak today about the importance of this habitat that's going to be moved by that fill that's going to be used for those extensions.

Response A_Hearing 20
Thank you for your comment.

Comment A_Hearing 21
Of course, we need this new type of runways [sic] for advances in the future, but we also have to look back at what it means for us to take habitat away for such important food items that we have in our area.

Response A_Hearing 21
Thank you for your comment. Sections 4.9, Historical, Architectural, Archaeological, and Cultural Resources, Section 4.10, Socioeconomic Impacts, Environmental Justice, and Children's Health and Safety Risks, and Section 4.11, Subsistence Resources and Uses, of the Final Environmental Impact Statement (FEIS) and the Subsistence Evaluation Appendix note the cultural and socioeconomic importance of subsistence resources to local residents, including the importance of sharing resources.

Comment A_Hearing 22
Some of them on the short list are migratory birds. We have the Emperor Geese here. The Emperor Geese here population [sic] is growing and they're becoming more abundant. And what they're doing is they're increasing in population. And because they're increasing in population they're pushing the smaller ducks away from their habitat where they eat. So in turn, it turns out that there's less habitat for the ducks to eat because of the geese that are populating are taking the habitat away. Now, we come talk about this fill. This one takes some more fill -- or more food area away from the ducks that are competing with the Emperor Geese.

Response A_Hearing 22
Thank you for your comment. The Final Environmental Impact Statement (FEIS) Section 4.6, Waterbirds, documents effects to ducks and other resources from reduced food resources and the potential for increased competition for prey amongst different species. FEIS Section 4.11.1 documents that a loss of habitat could also increase competition between and among species for food and cover.

Comment A_Hearing 23
We have to look at the -- we have to look at the seals and the sea lions that feed on the fish out there that are traveling through that area that's going to be filled. That -- those seals and the sea lions are feed for the Alaska Natives. We have more than one Alaska Native here that utilizes the seals and the sea lions.

So if they don't have enough area for their foods it might reduce the population even more. The sea lion currently are in almost an -- over 90 percent decline in their population in the North Pacific, the Steller sea lion. And so over the last 50 years they're reduced from a population of 400,000 down to 40,000. So we don't know for sure what this fill will do for their habitat or what kind of fish it would take away from those sea lions. But they have a hard enough time as it is. And to add some more burden upon them by placing some more fill in a spot to where they could go get some fish to eat, might be causing a huge, huge problem that we don't really understand.

Response A_Hearing 23

Thank you for your comment. The Final Environmental Impact Statement (FEIS) Section 4.7, Marine Mammals, discloses effects to sea lions and seals from all Runway alternatives. The section notes that the Steller sea lion occurs across the North Pacific from northern Japan through the Kuril Islands and Okhotsk Sea of Russia, to the Aleutian Islands, central Bering Sea, southern coast of Alaska, and southward through the Pacific Northwest coast to the Channel Islands off the coast of California. Kodiak Island falls within the range of the Western stock, which has experienced substantial population declines and is listed as endangered under the Endangered Species Act (ESA).

In addition, the FEIS and the Subsistence Evaluation Appendix both document marine mammal subsistence uses by Alaska Natives.

Comment A_Hearing 24

Also, in this area, we have intertidal foods. [sic] We call Mod duck and there's also different types of clams that have quite possibly come from these areas. So not only do the Natives eat those foods, but other marine mammals and migratory birds, as well.

Response A_Hearing 24

Thank you for your comment. The Subsistence Evaluation Appendix lists many of the different species used for subsistence by Kodiak residents, including many species of ducks and invertebrates. The effects to marine mammals and migratory birds from reduced abundance are discussed in Final Environmental Impact Statement (FEIS) Sections 4.6, Waterbirds, Section 4.7, Marine Mammals, and Section 4.8, Upland Vegetation and Wildlife.

Comment A_Hearing 25

We're talking about 17 acres here. In this 17 acres, because we're in a business type of world, we look at it as 17 acres flat, as thin as a piece of paper. But in all actuality this area is much bigger than a thin piece of paper that we're talking about, like an acreage of property. Because if we put fill in, 17 acres of fill, it's going to cover a mass volume area that's going be more than 17 acres.

And we think that it's only going to affect that little point of property, but in all actuality, because it's going to change the way that the different species travel in through there, it might change the dynamics of how they live or interact with our area.

Response A_Hearing 25
Thank you for your comment. The Federal Aviation Administration (FAA) recognizes that effects would occur throughout the water column, not just in the 17 acres of submerged lands. The area and volume of loss is disclosed in the Final Environmental Impact Statement (FEIS) Table 4.3-1, Summary of Direct Impacts to Wetlands and Waters of the U.S. The impact assessment in the FEIS considers the total loss of habitat, not just the loss of submerged lands.

Indirect impacts, beyond the direct impacts to the acres resulting from fill, are analyzed in the FEIS. For example, the indirect effects to fisheries and their severity are summarized in FEIS Table 4.5-1. Indirect effects to fisheries that may also impact subsistence (Section 4.11) are described in Section 4.5 of the FEIS.

Comment A_Hearing 26
And then if we start doing that with those changes, there's a possibility that by changing the dynamics of that area we could be changing what occurs here that relates to commercial operations. And so some of the fish that are taken from here and some of them travel to the Buskin, those fish are shipped worldwide.

Response A_Hearing 26
Thank you for your comment. The Final Environmental Impact Statement (FEIS) Section 4.10, Socioeconomic Impacts, Environmental Justice, and Children's Health and Safety Risks, describes the potential for reduced salmon abundance and the socio-economic effects that result from reduced abundance. As noted in the Final Environmental Impact Statement (FEIS), the proposed project would not result in a significant adverse impact to commercial fisheries because the Buskin River contributes a very small percentage of the overall commercial fishery.

Comment A_Hearing 27
And so by thinking about it as a thin piece of paper, as a small acreage, we might be making a mistake and not really thinking about how it will affect us in the future.

Response A_Hearing 27
Thank you for your comment. The Federal Aviation Administration (FAA) recognizes that effects would occur throughout the water column, not just in the 17 acres of submerged lands. The area and volume of loss is disclosed in the Final Environmental Impact Statement (FEIS) Table 4.3-1, Summary of Direct Impacts to Wetlands and Waters of the U.S. The impact assessment in the FEIS considers the total loss of habitat, not just the loss of submerged lands.

Indirect impacts, beyond the direct impacts to the acres resulting from fill, are analyzed in the FEIS. For example, the indirect effects to fisheries and their severity are summarized in FEIS Table 4.5-1. Indirect effects to fisheries that may also impact subsistence (Section 4.11) are described in Section 4.5 of the FEIS.

Comment A_Hearing 28

One of the important things that I want to mention is that in that stream, that's a sockeye salmon stream, and that's one of the sockeye salmon streams that are few in the world. And those sockeye salmon are pretty finicky. In order to survive in the habitat, they have to have the correct environment. And I'm not a biologist, but I know that in order for them to be in a stream it has to be a really good stream. So by putting fill in there and changing the dynamics we don't know how big of an effect we're going to have on that environment. And it made me realize it after we started talking about where the mixture of the freshwater comes into the saltwater, and realizing that there are no studies about what the young fish coming out of the streams interact when they go from the freshwater to the saltwater to make that mutation to go spend their life out in the salt. And we don't have any information about what happens when the salmon come back and they're in this environment, to where they're switching from saltwater back into freshwater. And so by changing that whole dynamic we have to be really careful because we're not dealing with just a piece of paper. We're dealing with something that will happen in the future, maybe years from now, and we might regret it.

Response A_Hearing 28

Thank you for your comment. Section 4.11, Subsistence Resources and Uses, of the Final Environmental Impact Statement (FEIS) notes that the most-harvested salmon in the area is sockeye salmon, followed by Coho salmon, pink salmon, Chinook salmon, and chum salmon. To minimize effects to important subsistence resources, the Federal Aviation Administration's (FAA's) Preferred Alternatives avoid direct impacts to the Buskin River. The FAA has used the best available information and methods deemed appropriate by the regulatory agencies with oversight of the marine and freshwater resources in the Environmental Impact Statement (EIS) study area to assess anticipated effects from the various alternatives. The FEIS notes that Runway 07/25 Alternative 2 may have significant adverse effects to salmonid populations/subsistence resource abundance and availability as a result of habitat impacts within the study area.

Comment A_Hearing 29

And so I know it's important to make these changes, to make things safer, and that's important and we appreciate that here. But we have to make sure that we're doing the correct thing for the salmon, because it turns out that those salmon are a food source for over 137 different species in the world, one of which is human. And so if we affect an area that is critical, that these sockeye salmon that are finicky and there's not many of them in the world, we might be adding to a bigger problem than what we really know.

So please, be careful in your decisions, and understand that because this is being taken away it's a food source area that's being taken away.

Response A_Hearing 29
Thank you for your comment. Sections 4.5, Fish and Invertebrates, Section 4.6, Waterbirds, Section 4.7, Marine Mammals, and Section 4.8, Upland Vegetation and Wildlife, of the Final Environmental Impact Statement (FEIS) document potential effects from reduced salmon abundance and the effects to other species, including marine mammals and humans.

To minimize effects to important subsistence resources, the Federal Aviation Administration's (FAA's) Preferred Alternatives avoid direct impacts to the Buskin River. The FAA has used the best available information and methods deemed appropriate by the regulatory agencies with oversight of the marine and freshwater resources in the Environmental Impact Statement (EIS) study area to assess anticipated effects from the various alternatives.

Comment A_Hearing 30
It would affect the local tribe here -- I'm the Natural Resource Director for the Sun'aq Tribe of Kodiak -- in that there's a possibility that it might change the area where it is considered close for subsistence fishing and where the nets are put. So we have to make sure that we have a clear explanation of where the closed area is, wherein that new airport safety area is located at. Where -- can our local subsistence users know that they could go to their spot, to where it's legal for them, and they won't get in trouble. Or in the same spot that they've been going to for over 50 to 80 years getting the same fish in the same spot. So we have to be sure that we -- if we take that away that we make a decision to replace what is being taken away.

Response A_Hearing 30
Thank you for your comment. The Final Environmental Impact Statement (FEIS) Section 4.11, Subsistence Resources and Uses, and the Subsistence Evaluation Appendix note that some subsistence users would be displaced from preferred fishing locations as a result of placement of fill off Runway 07/25. Subsistence users would still be able to access areas open to fishing under both the state and federal regulations. There would be increased competition for preferred subsistence fishing spots, but the increase in competition is not expected to be significant. In addition, while the runway safety expansion would affect the location of the regulatory marker, the Federal Aviation Administration (FAA) cannot implement subsistence regulations to ensure the subsistence boundaries would remain in place. Decisions regarding regulatory boundary adjustments for this area are the jurisdiction of the Federal Subsistence Board and the Alaska Board of Fisheries.

Comment A_Hearing 31
So I know it's important to put that runway safety in, but we also have to look at the other things that are important, too.

Response A_Hearing 31
Thank you for your comment. To minimize effects to important subsistence resources, the Federal Aviation Administration's (FAA's) Preferred Alternatives avoid direct impacts to the Buskin River. The FAA has used the best available information and methods deemed appropriate by the regulatory agencies with oversight of the marine and freshwater resources in the Environmental Impact Statement (EIS) study area to assess anticipated effects from the various alternatives.

Response to Public Hearing Testimony: Iver Malutin (Second Set of Verbal Comments)
March 21, 2013

Comment A_Hearing 32
But if I interview you, you're not going to give me everything. You're going to only give me what you know. And that's the way it is when I give my presentations. But the main reason that we're here today -- the main reason is because of the large influx of people that came here in 1941. In fact, 1939. When I was 10 years old we used to go fishing with me [sic] dad. We had a boat with two spare ores, two guys, and we'd go to the Buskin River, a lot of fish. And I was the little guy up in the bow all the time, freezing. They'd load up the boat and come back, and that's what Ocean Beauty is. That was the fish at the cannery. And the reason I can -- I can pinpoint the date is because George Micnoton (phonetic), who was a really good friend of mine, born in Kodiak, is really a super good person, told me that he went there to that fishery here and they built a cannery over at Port Bailey, near Kupreanof, and they moved there in 1939. And before that I was in a skiff and they were already building the runways, believe it or not. Big trucks, huge trucks. I'd never seen a car and I thought, wow. But anyway there was so many fish, and we could make two trips in one day in that boat, just rowing from there to there. And that's what I remember. There's so much fish, so much fish. And I just hate to see anything happen, and was saying that the large influx of the people here in Kodiak in 1941, it was during the war, totally, totally changed Kodiak, and that's what we're fighting here today. And it's not a good or bad -- I'm sure it's good because we got so much from the people that came. But anyway, like it or not that's what we're fighting.

Response A_Hearing 32
Thank you for your comment and the historical information on pre-WWII fishing and WWII changes at the Buskin River.

Comment A_Hearing 33
And one other thing I would like to say that the Coast Guard, they're the best friends we have. The best friends we have. A lot of people know that this is the best base in the United States, and the compatibility of the town and Coast Guard, the general of Alaska knows that this is the best base in the United States for the military and the people. They know that because we tell them that, because we work with these people, we live with these people. And we're working with them right now in other sections, and they are really, really good to us. I just have to say that because I don't -- there's no way in the world I don't want anything said that this was the work of the Coast Guard, because they didn't. They're not saying -- and they're really good about what they're doing. They're just the best people we've got and just the best thing we've got here. So I've got to go to church, and that's all I can say. And thank you, guys, very much.

Response A_Hearing 33
Thank you for your comment.

Comment A_Hearing 34
Commonsense.

Response A_Hearing 34
Thank you for your comment.

Response to Public Hearing Testimony: Patrick Holmes (Second Set of Verbal Comments)
March 21, 2013

Comment A_Hearing 35
I'll just write an email and send it to Leslie on my minor things.

Response A_Hearing 35
Thank you for your comment. [The commenter provided additional comments to the Federal Aviation Administration (FAA) via phone as are noted in this section.]

Comment A_Hearing 36
But important thing to take into consideration, as Iver was mentioning, is, you know, a cultural perspective. And you know, in writing this compared to here, there's a discussion on the numbers of permit holders and average catch per person. But you have to think about it in a local cultural perspective, and that -- I forget what exact numbers. But it'd be like 20.2 pounds per person of coy or sockeye or whatever. But you need to look at that in terms of catch per person. And depending on the year it can be 1,200 permits. Some years it'll be 2,000 people applying for salmon subsistence permits. But there's only hundreds that do the fishing.

And there's a few hundred that really do the production fishing that really catch a lot of fish. Because you can go into the Fish & Game after you get your limit for your own family -- most folks, like myself, automatically give half away. And once I reach the amount I need for my family I give seven-eighths of it away. And one year we lucked out and I caught 180 fish on my net at one time, and I kept 25 and I gave all the rest away. And so there are people like Moses, who's died, he'll go out almost every other day to fish, when he was spry enough, and he would continue to catch fish for everybody. And I know at the department everybody would say, “Well, Moses is out fishing again.” And he figured, “Hey, the bureaucracy, don't worry about it,” because he's fulfilling a defined role within the community. And so those numbers that are small numbers per person equate to a large number for individual people.

Response A_Hearing 36

Thank you for your comment. The Final Environmental Impact Statement (FEIS) Sections 4.9, Historical, Architectural, Archaeological, and Cultural Resources, Section 4.10, Socioeconomic Impacts, Environmental Justice, and Children’s Health and Safety Risks, and Section 4.11, Subsistence Resources and Uses, and the Subsistence Evaluation Appendix note the cultural and socioeconomic importance of subsistence resources to local residents, including the importance of sharing resources.

Comment A_Hearing 37

The comment that given the amount of open water available within Chiniak for harvest, this alternative, whichever it's relating to, [Runway end] 25 I guess, is not expected to have significant short- or long-term impacts on subsistence users' ability to access subsistence resources or significantly change the level of competition for subsistence resources. And you have to have it in the context of the local community because of our little areas that -- you know, you've been very discrete in not mentioning them -- that I pointed out in the early meetings. That certain families fish certain points, and that area in which we're discussing is an area of one of the really significant production areas. So there will be competition and there will be a lot of verbal discussions. And I'm just going to have to get out there at 4 in the morning instead of when it opens to get the spot where I like to fish. Who knows, maybe the spit will change things and create more productive fishing because the fish will have to lead out from it. I don't know. But that comment on the bottom of 25, from an out-of-town perspective, is probably appropriate. But from folks here and the limited number of people that really do the production fishing, they know where to fish, on which tide, which way the wind's blowing. And so the competition for the key places to set will be really important.

Response A_Hearing 37

Thank you for your comment. The Final Environmental Impact Statement (FEIS) Section 4.11, Subsistence Resources and Uses, and the Subsistence Evaluation Appendix note that some subsistence users would be displaced from preferred fishing locations as a result of placement of fill beyond Runway end 25.

Subsistence users would still be able to access areas open to fishing under both the state and federal regulations. There would be increased competition for preferred subsistence fishing spots, but the increase in competition is not expected to be significant.

Comment A_Hearing 38

I would suggest that you want to make this document accurate, you know, there's a discussion that feds rule all on resources. But you need to look at the memorandums of agreement between the Federal Board of Subsistence, Fish & Wildlife, and the State because the State is the one that does the active management, openings, closures, moving the markers inland when the numbers of fish are down. And basically, the federal board duplicates the regulations of the State and requires all people to get the State, the subsistence permits. So that discussion is just a little bit out.

Response A_Hearing 38

Thank you for your comment. The Final Environmental Impact Statement (FEIS) Section 4.11, Subsistence Resources and Uses, and Subsistence Evaluation Appendix note that both state and federal regulations apply to areas affected by the Runway alternatives. The text has been revised to state that State fisheries managers actively manage and monitor both the state and federal fishery.

Comment A_Hearing 39

I wonder -- and this is an important question to address. There's a section earlier up on second paragraph on page 25, relating to the difficulties of construction and that it would displace fishing. I'm wondering, would it be at all possible to do the fill in any one of the other months other than June, when the bulk of the sockeye are going out? Could some other function be done? Or maybe require the fill to be put in -- or the base level of the fill to -- pardon me, I'm an old man. I forget what the type of aggregate rock would be. But maybe you could require that that be done before June. Because fish -- that'll be a few fish in May and a lot of folks will go out and get a few. But it's from maybe about 8th to 10th of June, kind of peaks, and 15th to 21st, and then tails off for the bulk of the early run. So if you could just maybe not be having barges and boats. Because having yards of muck dumped in -- maybe just having a little window there. Because I know -- I know if you want to work in Minatna Stream (phonetic) the State will say, yeah, you can do this or that but you can't do it during the time the fry are going out and the smolt are active or when spawning is going on. So they get another nine months of the year that that's kosher. You might want to put that in your recommendations.

Response A_Hearing 39
Thank you for your comment. The Federal Aviation Administration (FAA) and the Alaska Department of Transportation and Public Facilities (ADOT&PF) are working with the Alaska Department of Fish and Game and the U.S. Fish and Wildlife Service (USFWS) to establish construction timing windows for sensitive resources, including salmonids, marine mammals, and threatened and endangered species. Specific timing windows are expected to be established with issuance of permits for the project after the FAA's Record of Decision.ADOT&PF would coordinate the timing of construction with the USFWS and NMFS prior to construction starting. This should be done when the design is far enough along to be able to identify construction methods, sequencing, and schedule. In-water work construction would be excluded from April 1 to July 15 to avoid impacts to aquatic species. In-water work is defined as any work below the high tide line (Elevation 11.7 ft).

Comment A_Hearing 40
And then, again, on editing. Look on 25, 26 -- or 26 and 27, and it talks about the amount of land lost for our sub-service acreage for subsistence use, but they don't quite line up with -- because it says 9.8 acres -- anyway, just recheck those. Because it's 8.9, 9.8, in one place, 15 acres in another on another alternative, and I just have to look at that more, or maybe there's some little bit of discussion that's off. There's another discussion, says 15.8 acres. So there's lots of different numbers. Now, that's the bulk of it. I'll send you the other little details.

Response A_Hearing 40
Thank you for your comment. The Subsistence Evaluation Appendix has been revised to clarify the various acreages and impacts associated with each alternative. As an example, acreages and impact areas have been calculated for fill footprints as well as areas of freshwater influence, and other habitat zones beyond the areas of direct impacts.

Comment A_Hearing 41
But let's see, again, on relocating. Individuals -- bottom of 37: Individuals would have to relocate to similar harvesting locations due to the placement of the fill -- and that's the big question, you know, that Iver was raising, is will there be similar locations? Because it's going to take time for that to get all sorted out amongst folks in town.

Response A_Hearing 41
Thank you for your comment. The Final Environmental Impact Statement (FEIS) Section 4.11, Subsistence Resources and Uses, and the Subsistence Evaluation Appendix note that some subsistence users would be displaced from preferred fishing locations as a result of placement of fill beyond Runway end 25. Subsistence users would still be able to access areas open to fishing under both the state and federal regulations. There would be increased competition for preferred subsistence fishing spots, but the increase in competition is not expected to be significant.

Comment A_Hearing 42
And anyway, I'll stop at that point. I would, once again, like to say that it's good that you folks have come up with alternatives. That, you know, I'd just as soon see it a little shorter on 25, but at least it's providing for the need that you have to provide for. Planes landing, short landing, long, and also considerations on the fish and critters. So it's a remarkable improvement over the first meeting that we had. And so my hat's off to you.

Response A_Hearing 42
Thank you for your comment.

Comment A_Hearing 43
But please, if there's any way at all to get a smolt-monitoring program, that's what really needs to be done if that runway extension is made. And if it is and then there is a problem, then there's ways to make adjustments, being a proposal that Rick has, providing extra eggs, or increasing the escapement goals of the system, different things that could be coordinated with the Coast Guard, you know, but you just have to have that monitoring.

Response A_Hearing 43
Thank you for your comment. Because the FAA received several comments from the community requesting a smolt monitoring program during the EIS process, the mitigation plan described in Chapter 6 of the FEIS includes a payment of $200,000 to the ADF&G to fund their subsistence management program on the Buskin River. These funds would be used either to continue the adult escapement monitoring or to develop a smolt enumeration study. This management program would aid in the management of sustainability of salmon runs and provide information that could improve management of the river for subsistence users.

Comment A_Hearing 44
And thank you very much. I really appreciate all the time that you folks have done on this effort. And I think that because you did come up with the compromise, I think that's why you're not buried in people tonight.

Response A_Hearing 44
Thank you for your comment.

Comment A_Hearing 45
And folks have kind of followed your program as they've gone along and seen that you're willing to try to come up with something that's workable. And so I think if you have that monitoring, then it's going to be a workable solution.

Response A_Hearing 45
Thank you for your comment.
